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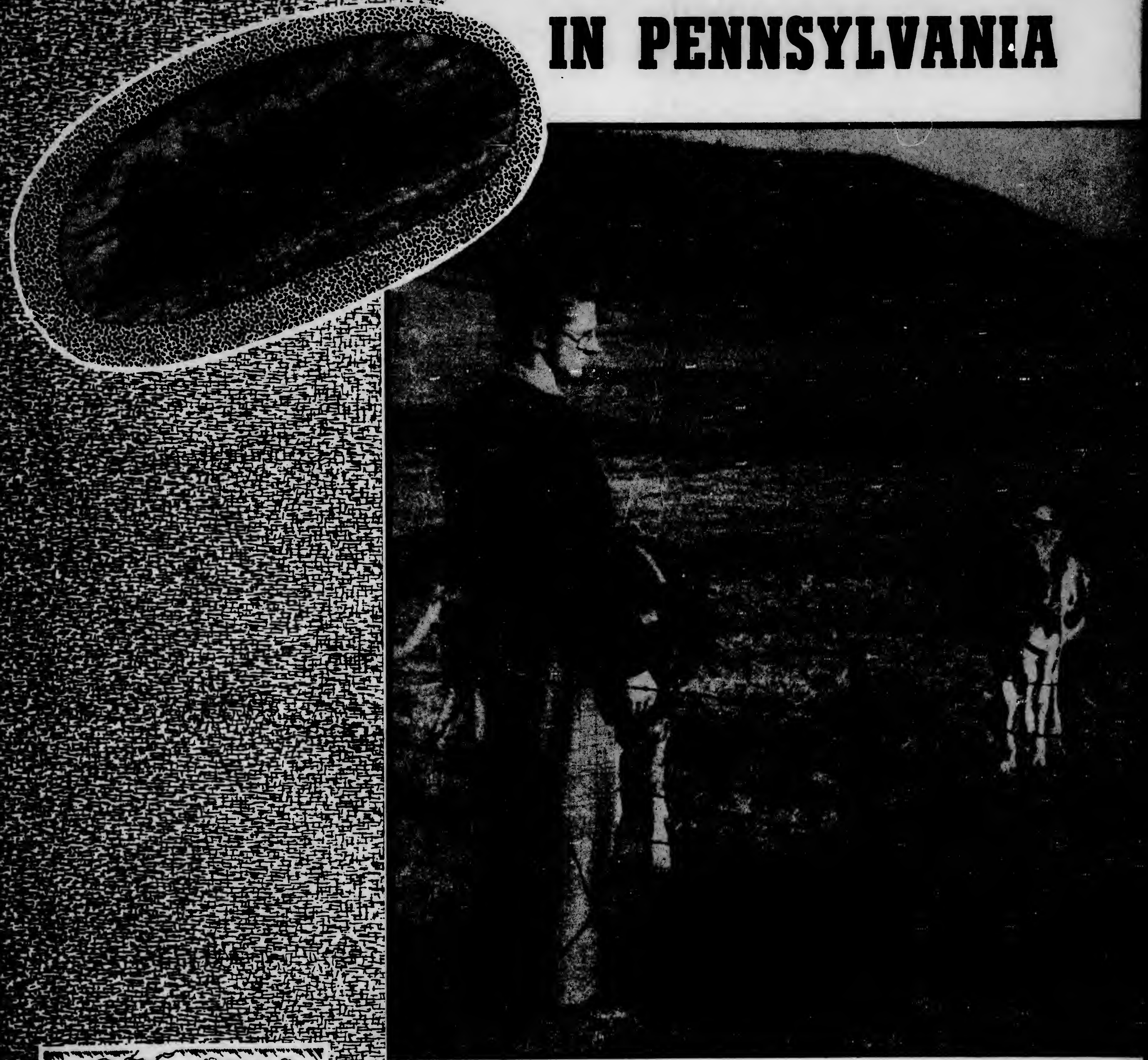
VOCATIONAL AGRICULTURE
IN PENNSYLVANIA



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DEPARTMENT OF PUBLIC INSTRUCTION
HARRISBURG

VOCATIONAL AGRICULTURE
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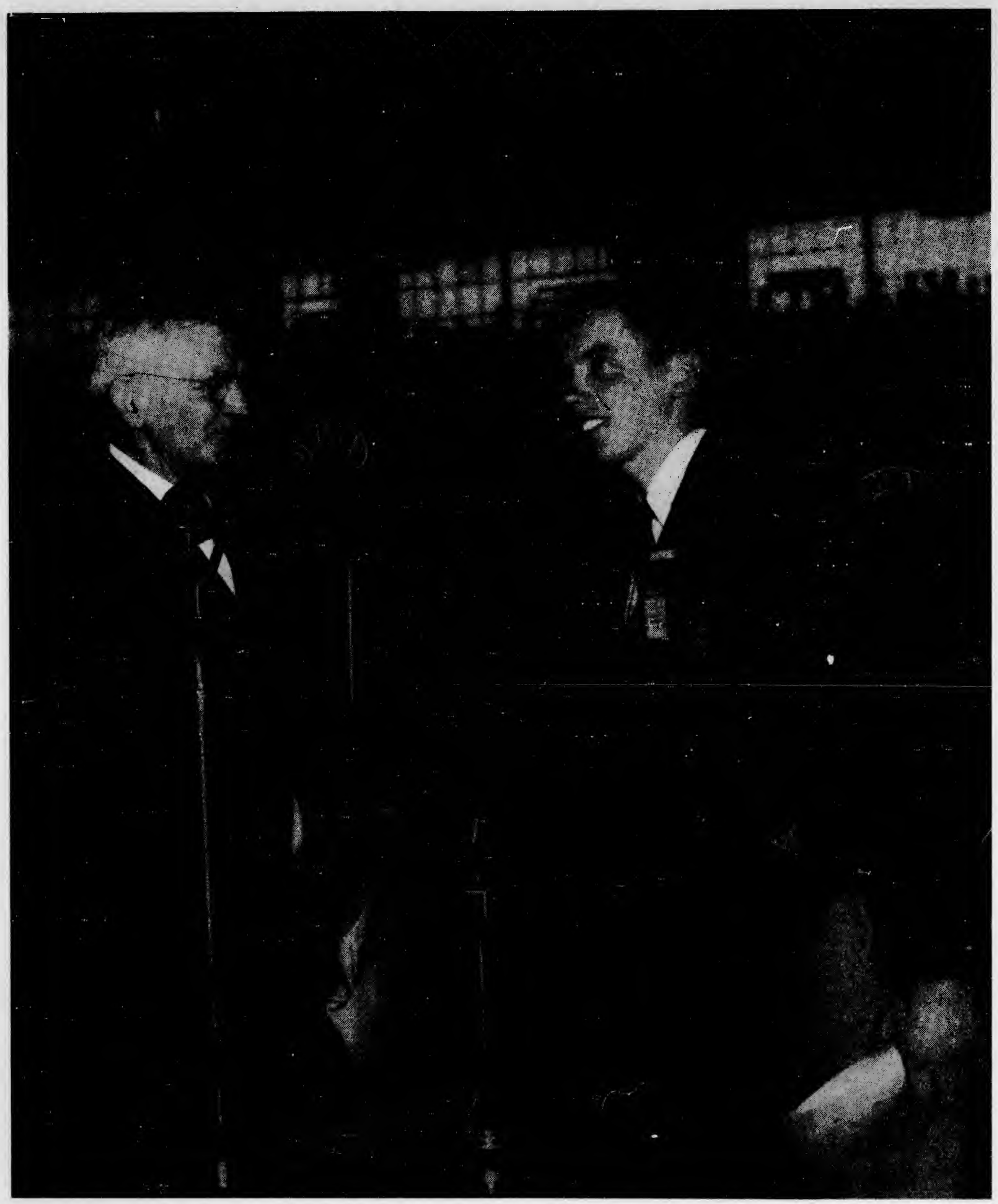

William G. Carlin, of Coatesville, R. D., receiving the Star Farmer Award from W. A. Cochel, editor, *Kansas City Star,* who said in part: "In the opinion of the officials, this Pennsylvania boy is at the very top among the many Star Farmers which have been selected. He is a credit to his State and to the instruction which he received in vocational agriculture and which enabled him to make such an outstanding record."

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BULLETIN 250 (REVISED)
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Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION
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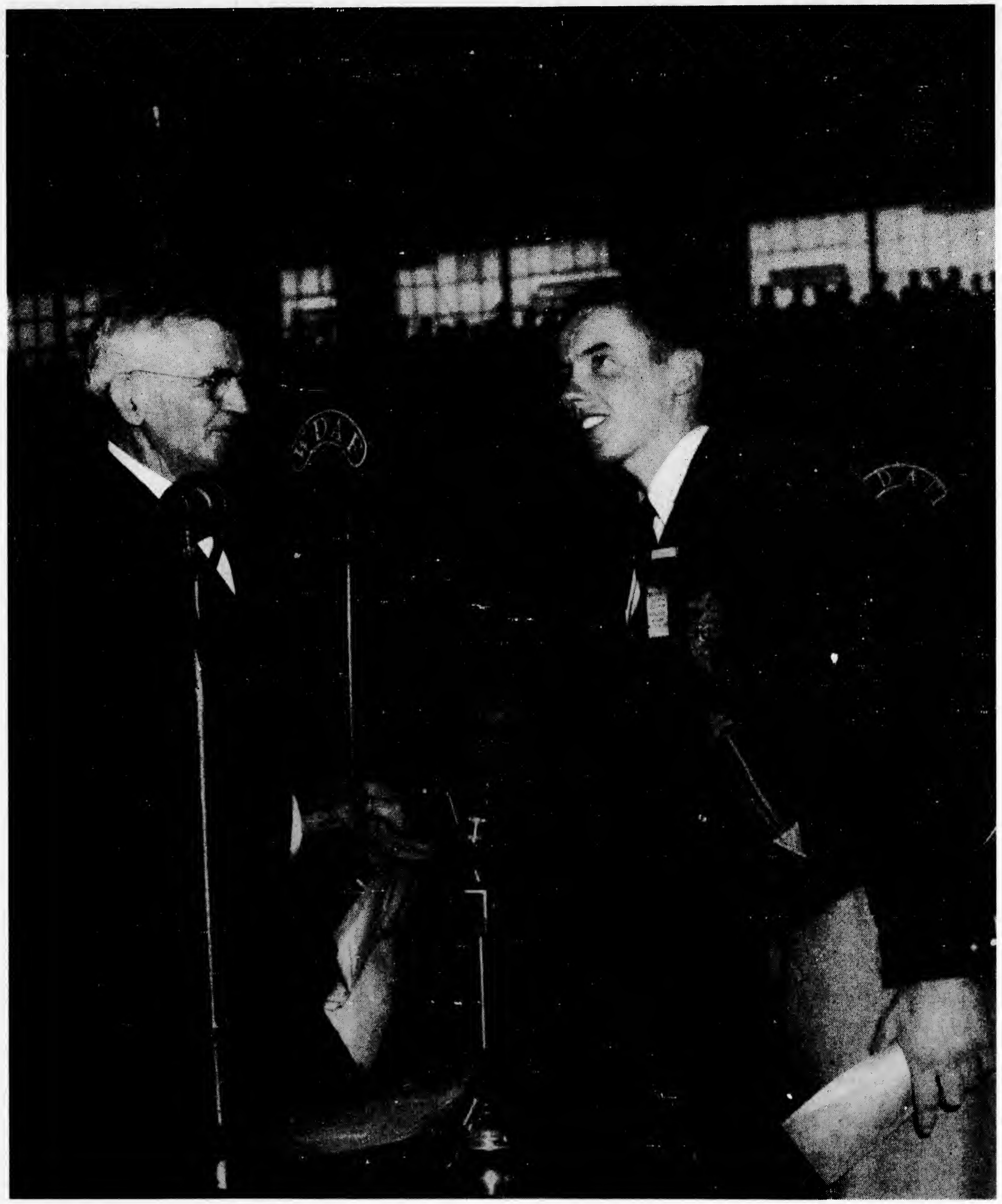

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FOREWORD

The purpose of this bulletin is to describe the instruction in vocational agriculture and the conditions under which this instruction is established in the secondary schools of Pennsylvania.

The bulletin will assist school boards and school administrators in establishing and planning approved courses in vocational agriculture by presenting such information as may be of help in clarifying the program in the light of present-day needs in agriculture education.

The comprehensive program for vocational agriculture in the secondary schools of our State is presented along with the detailed description of facilities requisite for providing adequate instruction suited to local needs. Many illustrations portray the activities of the vocational agriculture program in rural communities throughout Pennsylvania.

This bulletin was prepared by H. C. Fetterolf, Chief, Agricultural Education; V. A. Martin, Adviser, Agricultural Education; Samuel L. Horst, Chief, Farm and Home Safety Education—of the Department of Public Instruction; Dr. Henry S. Brunner, Head, Department of Agricultural Education; David R. McClay, Associate Professor, and Glenn Z. Stevens, Associate Professor, Agricultural Education—of The Pennsylvania State College; and Norman K. Hoover, Teacher of Agriculture, Hollidaysburg; Harry A. Everett, Area Adviser, Vocational Agriculture in Columbia and Montour Counties, with the assistance of many other advisers and teachers throughout the State, and under the general direction of Dr. Paul L. Cressman, Director, Bureau of Instruction, Department of Public Instruction.

Francis B. Haas

Superintendent of Public Instruction.

May 1949

416656

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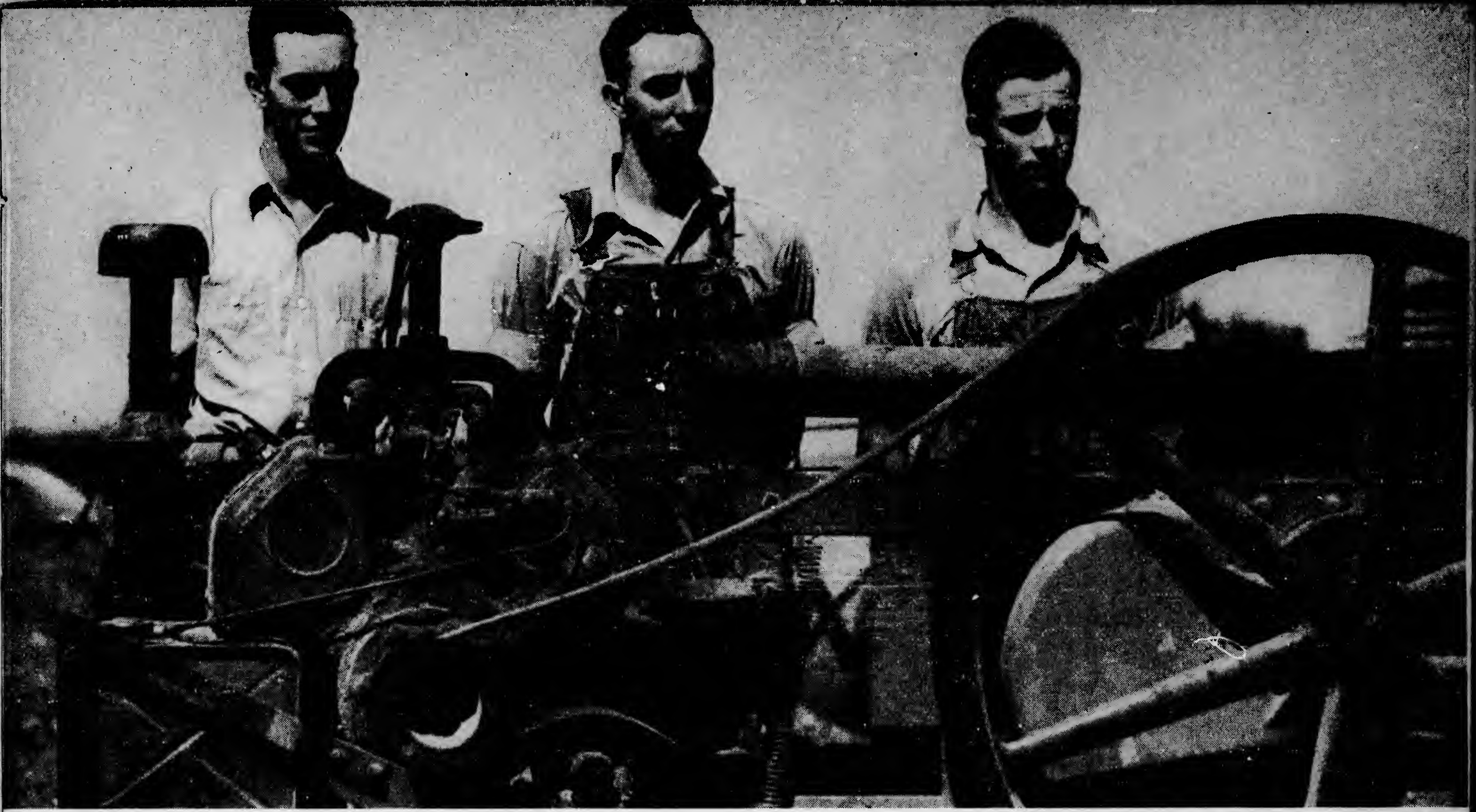
Somerset County. A Keystone Farmer with his fine sow and litter.



Millville High School, Columbia County. These three brothers, of Madison Township, all active in F.F.A. work and now members of the local young farmers class, own and operate a 250-acre farm.

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The Program for Departments of Vocational Agriculture

INTRODUCTION

The aim of vocational agriculture is to prepare rural boys for the vocation of farming and to enrich the secondary school curriculum so as better to serve those engaged in this occupation. It is not the intent of the Federal and State vocational laws to discontinue instruction in agriculture with graduation from the secondary school. The Smith-Hughes Act, passed in 1917, states that this instruction is for those engaged in farming and for those preparing for the occupation of farming. Therefore, classes for young farmers and adult farmers should be planned as a part of the school program.

Much of the instruction in vocational agriculture is given on the home farms of the boys enrolled in the course. In this respect, this course differs from all other courses offered in the secondary school. School administrators should plan the school program so that the teacher of agriculture can give this most vital instruction during a part of the school day. Care should be exercised that the work of the teacher of agriculture is not confined entirely to formal classroom instruction. The Pennsylvania State Board for Vocational Education has wisely safeguarded the practical instruction in supervised farming by certain regulations with respect to enrollment and reimbursement.

The time element allotted to the various items of instruction will vary greatly in different sections of Pennsylvania, just as climate, soil, and crop conditions vary throughout the State. Instruction in vocational agriculture must be planned so as to serve the best interests of the farm boys enrolled in the course. Success in the accomplishment of these agricultural enterprises serves as a reward for the work of the classroom, the laboratory, and the farm.

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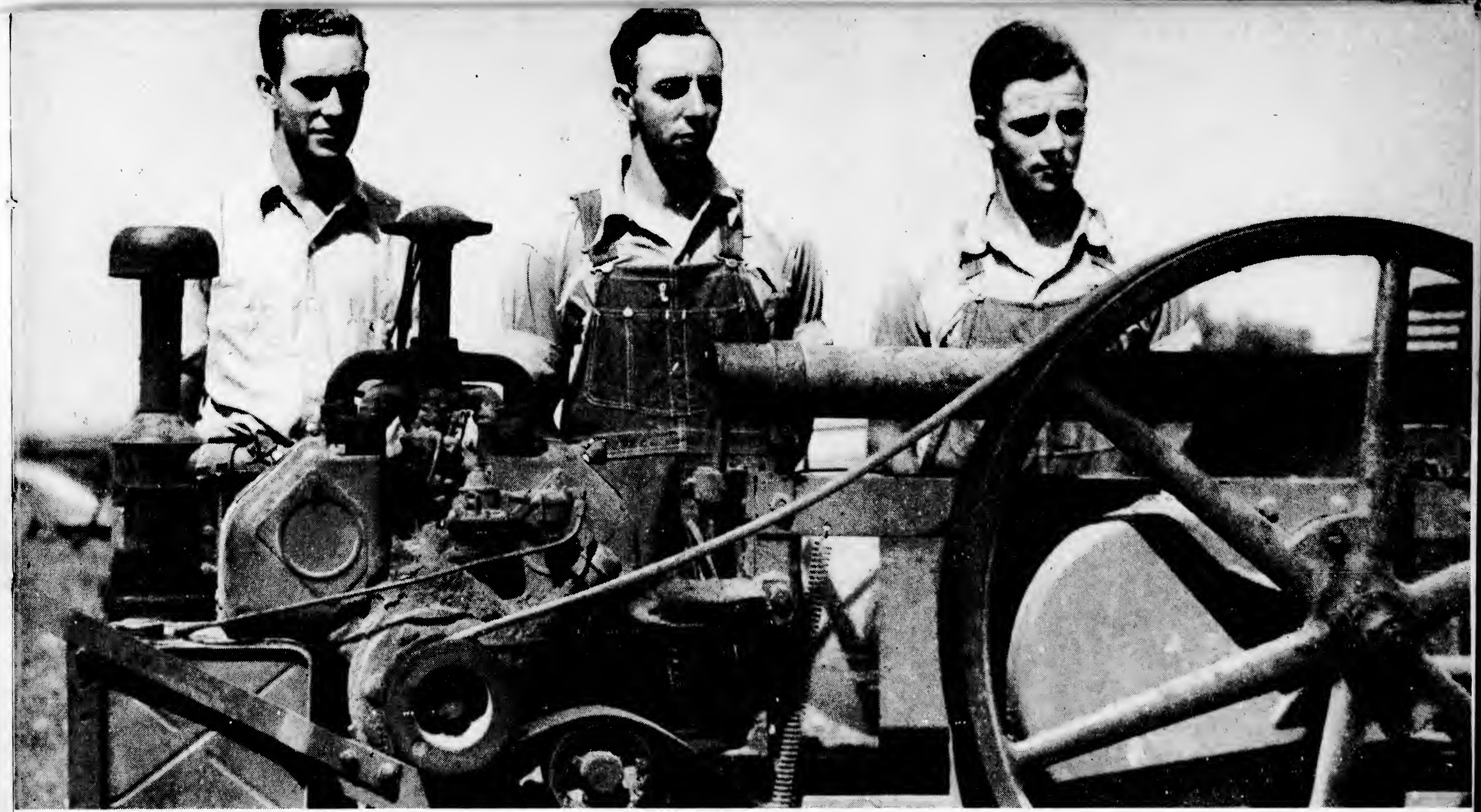

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Westmoreland County. The agriculture instructor checks the farm accounts record of a young farmer.

TYPES OF INSTRUCTION

1. All Day Classes.

The most popular type of instruction in vocational agriculture is that offered in a department of agriculture established in the secondary schools where there is a sufficient number of farm boys desiring this instruction. The minimum number of boys required for starting a department is twelve. However, the survey of the community must indicate that there is a possibility of growth and development. Where the enrollment of a secondary school is small, this instruction may be obtained by joining with another small district, thus sharing the time of the teacher of agriculture. The sharing of a teacher in this way is preferable to employing a teacher for part-time instruction in agriculture and part-time instruction in other subjects. Where the enrollment is small, it is recommended that teachers be employed to devote part of their time to young-farmer and adult-farmer classes.

2. Day Unit Classes.

Day unit classes in the past have been essentially promotional classes to acquaint communities with this particular type of part-time instruction; they were offered in communities where there was a possibility of developing full-time departments in agriculture. Day unit classes were originally planned to offer agricultural instruction to small groups of farm boys in remote rural areas where the enrollment did not justify the employment of a full-time teacher. There are still a few of these centers in the State; however, these day unit classes are gradually being absorbed by full-time departments. Their continuance should not exceed two or three years.

The instruction given by the area adviser is on a unit basis of one ninety-minute period per week. Instruction is built entirely around the supervised farming programs which are required of all pupils enrolled. The salary and travel expenses of the area adviser are paid from State and Federal funds. All other costs of instruction are provided by the local school district.

3. Young Farmers Classes.

During the past three years Pennsylvania has conducted classes for young farmers under the Veterans Educational Entitlement Program. The pattern set up for this type of instruction provides for four hours a week of formal classroom instruction and two hours of individual instruction on the veteran's home farm. This program has become popular with county superintendents, high school principals, county boards of education, and those profiting by the instruction. It very definitely establishes the fact that formal instruction to be effective must be supplemented by on-farm instruction. Veterans enrolled in this training have requested overwhelmingly the continuation of this program after they have completed their entitlement under the GI Bill of Rights. School administrators, therefore, can well afford to meet this need of these young farmers who are tax payers in their respective communities.

Troy High School, Bradford County. A Vocational Agriculture teacher with two of his former students, father and son. The son, an American Farmer, arranged a loan to purchase Pee Wee, the heifer that became the foundation cow of his herd of 39 purebred Jerseys and four grades. By means of increased profits and additional loans, he is now established in farming and besides the herd he owns a 167-acre farm with modern equipment.

4. Adult Farmers Classes.

Subject matter in the field of agriculture is continually changing. With 48 experimental stations and the U. S. Department of Agriculture continually discovering new facts and new methods in production and in insect and disease control, it is absolutely necessary, if a farmer is to keep abreast of the times, to attend classes in agriculture. The best way to offer this information is through evening classes conducted weekly for periods of approximately two hours. The most popular time for holding these classes has been through the winter months when there is a lessening of farm activities. Thirty-five years of experience in this field has proved the popularity of these classes and has shown also that a large percentage of farmers wish to keep up to date in the latest developments in agriculture.

The mechanizing of farming has made it imperative for farmers to learn the care and repair of modern farm machinery. Efficient production makes it necessary for constant instruction in the care of farm machinery. A well-equipped farm shop makes available to the farmers of the community certain equipment for farm machinery repair which the average farmer cannot afford. This is a service of the Department of Vocational Agriculture which is growing in importance and popularity.

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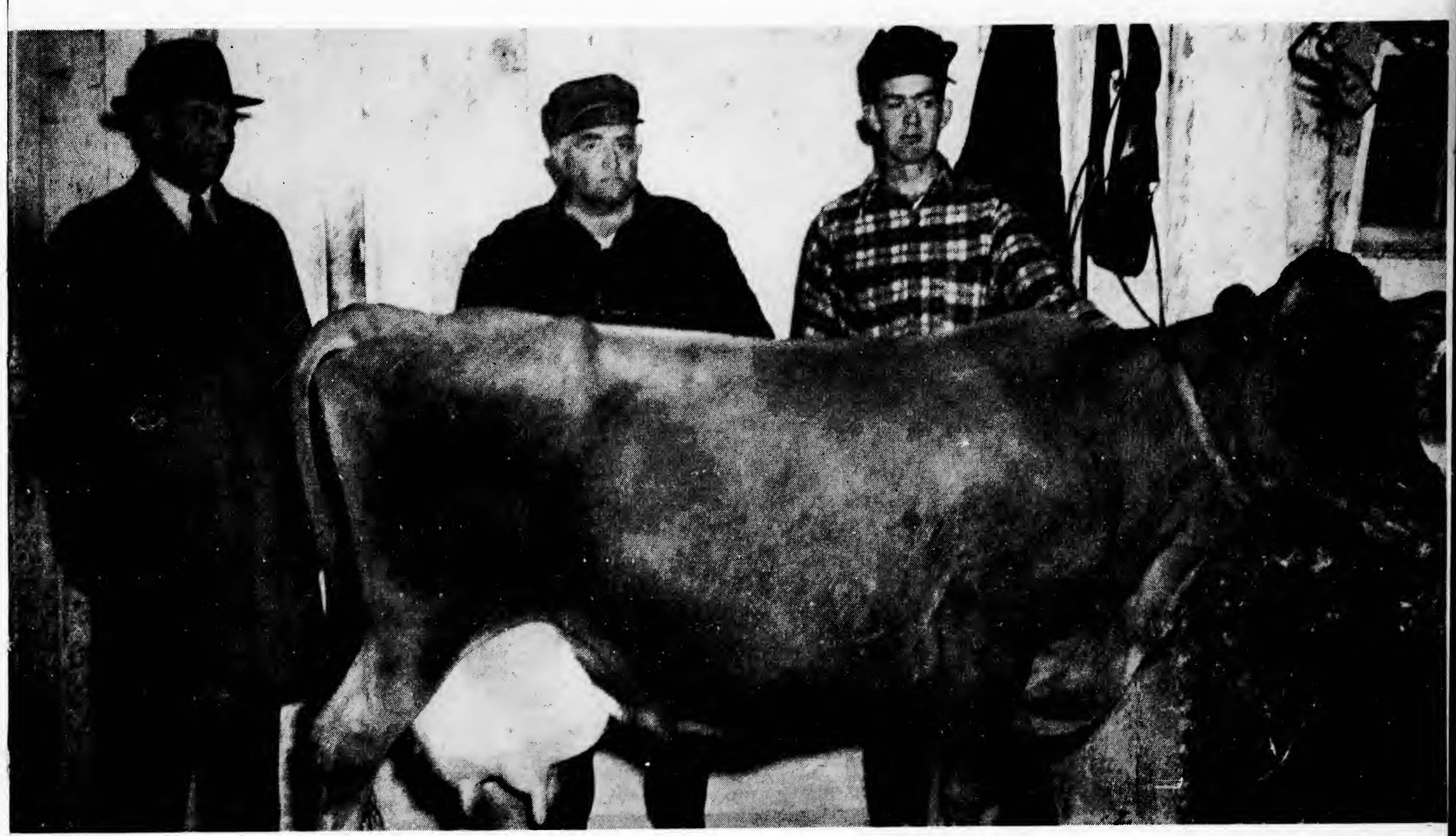

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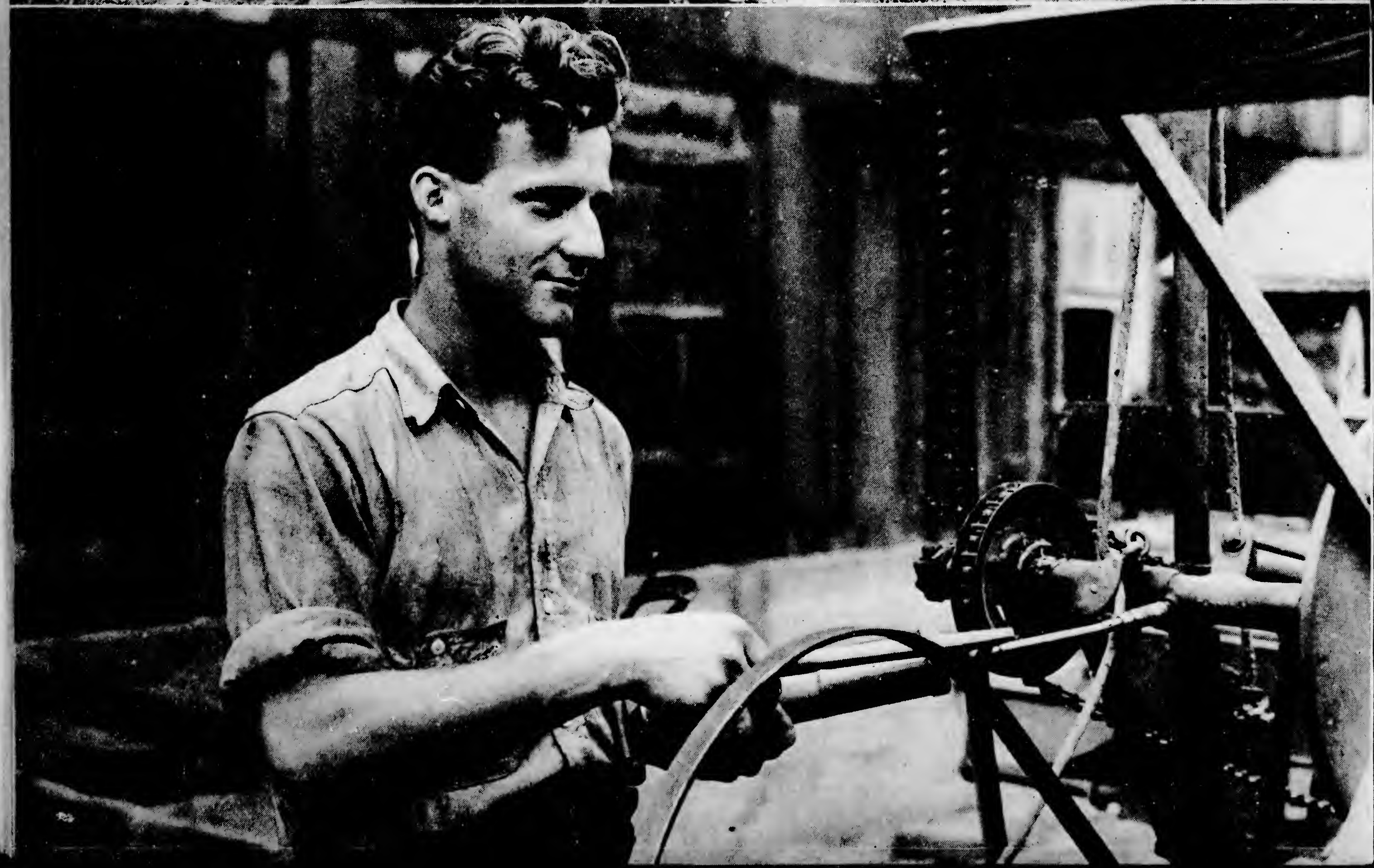
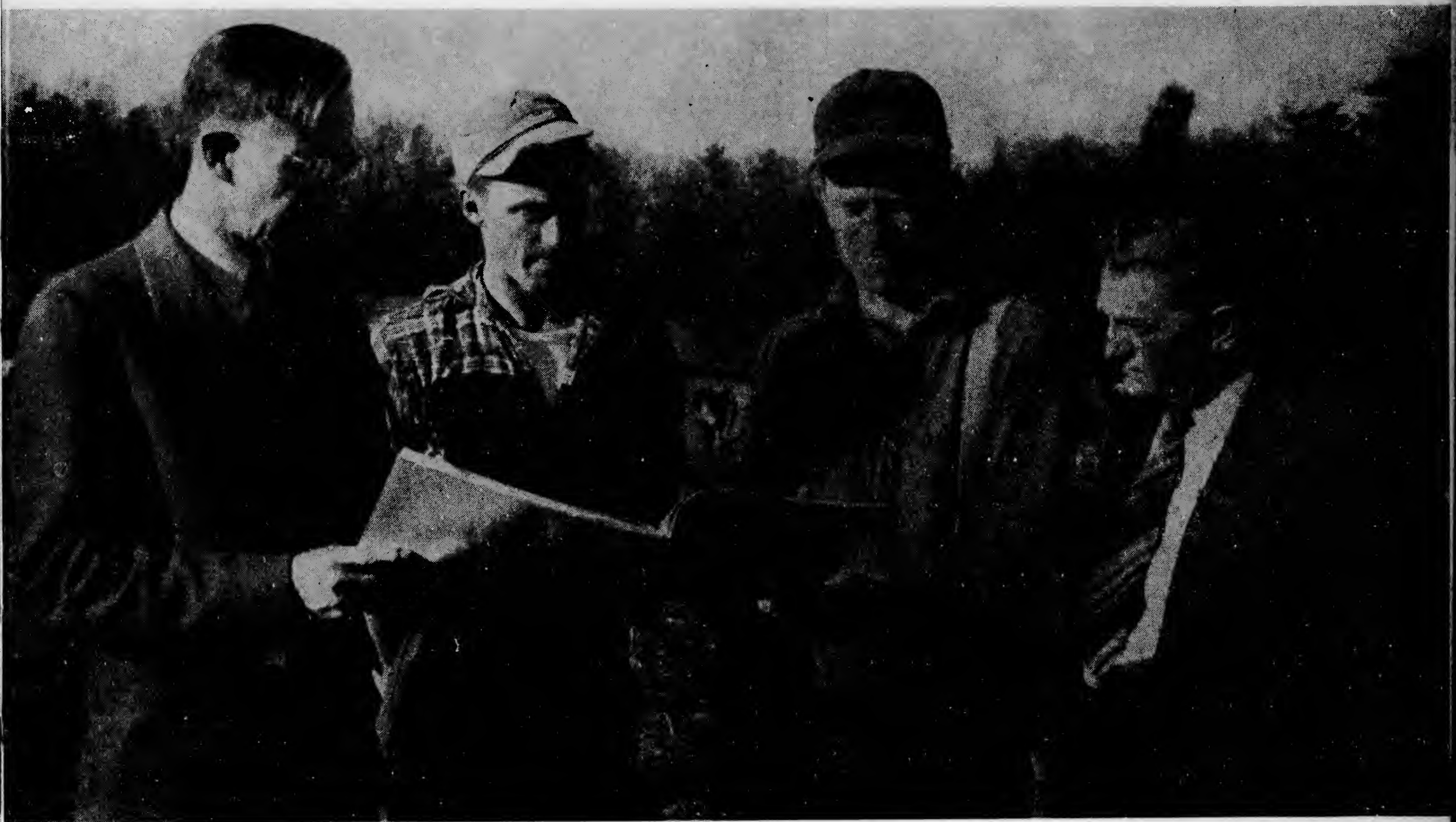


The County Adviser of the Bucks-Lehigh-Montgomery area inspects a new hog house built in a farm shop.

← Millville High School, Columbia County. A young farmer lubricates his combine.



Blain Union High School, Perry County. A Vocational Agriculture teacher with three graduates. The son, a Keystone Farmer, and his father have an extensive farming operation of 325 acres, 63 purebred Holsteins, 22 steers, 500 laying hens, 2600 roosters. Both are active members of community and county organizations. The third student is now County Adviser of Vocational Agriculture for Cumberland and Perry Counties.

DUTIES AND RESPONSIBILITIES OF TEACHERS OF VOCATIONAL AGRICULTURE

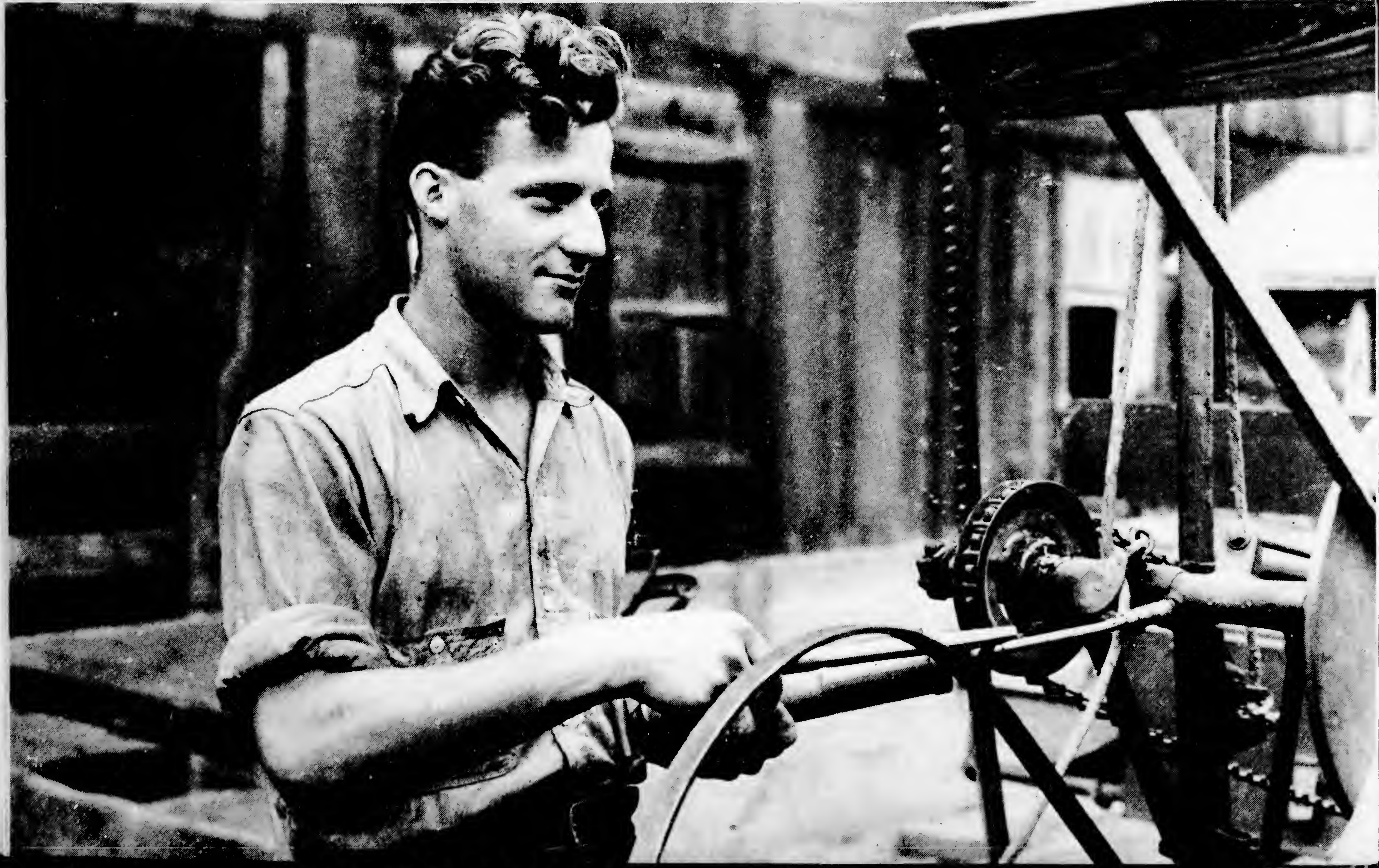
Instruction in vocational agriculture assists farmers and farm boys to recognize their problems, to think these problems through intelligently, to arrive at solutions on the basis of facts, and to put these solutions into practice and action that lead to the best development of personally and socially competent people. A statement of the duties and responsibilities with which teachers are charged in fulfillment of this broad concept presents something of an over-all picture of the program. The duties and responsibilities of the teacher are considered under the following fourteen major headings:

1. *Getting Established in a School and Community.*

The teacher must be properly informed on school policy. He will make it his business to know the better farmers as well as all other persons interested in the boys with whom he will be working. As his work progresses he will associate widely with church, farm, and social organizations.

2. *Discovering Individual and Community Needs, and Planning Programs.*

A study of the background and objectives of the school with particular reference to the department



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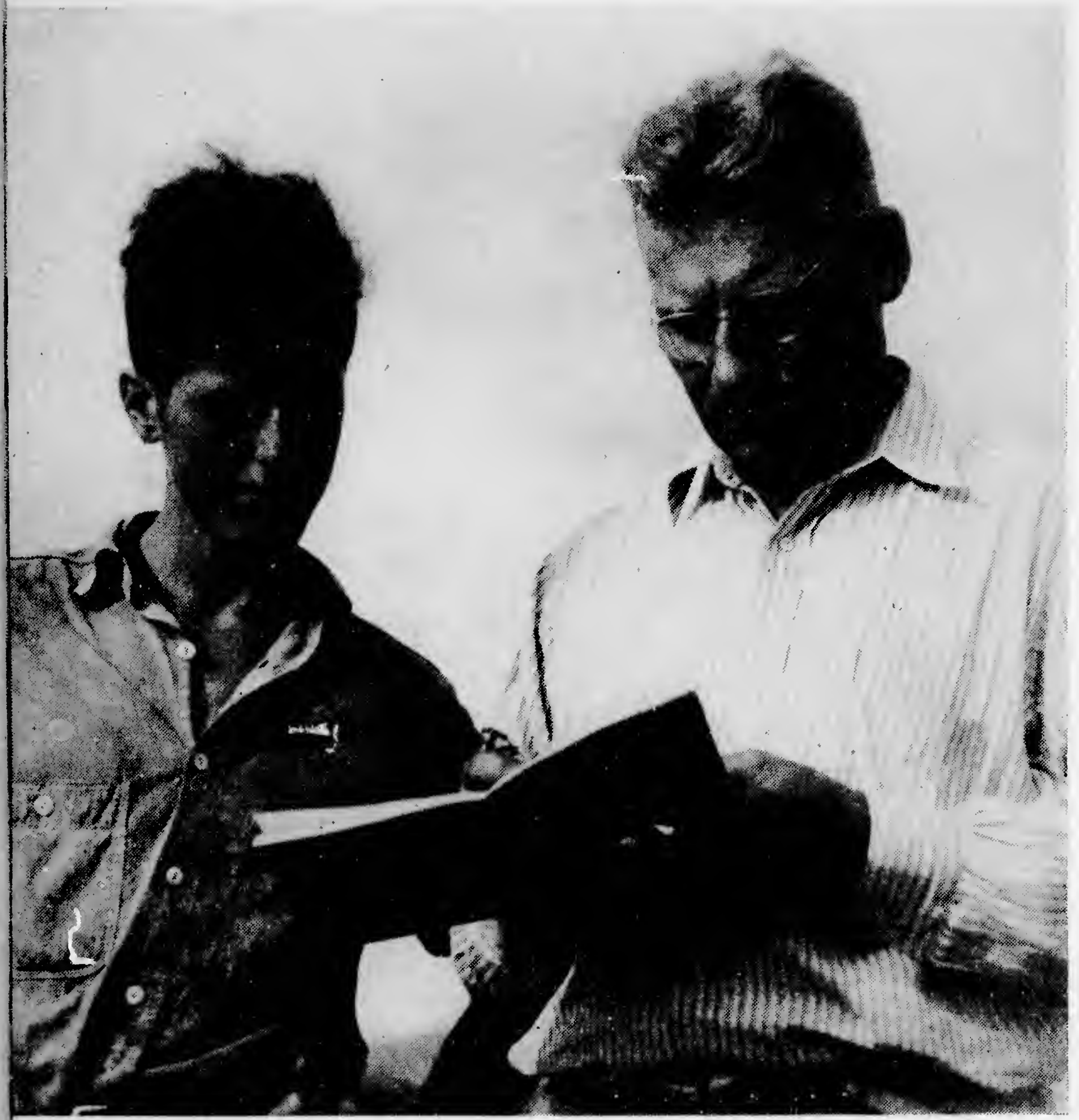


The instructor checks the project record book of a student.

of vocational agriculture is recognized as basically important. Similarly, familiarity with the farming of the area as shown by census data, surveys, and personal observations is fundamental to planning. Both approaches to the general needs are basic to a knowledge of the needs of the individuals who will make up the classes in vocational agriculture.

3. *Teaching All-Day Groups and Supervising Farming Programs.*

This responsibility of the teacher begins with his visits to the farm homes of his pupils. On the basis of his conferences with the boys and their parents he assists them with the planning and development of supervised farming programs. Then the course of study is organized to meet the needs of the group, and lessons are planned for classes, as well as for individuals, both in school and on the farms. The accepted objective of the work with the all-day class groups is establishment in farming.

4. *Teaching Young and Adult Farmer Classes.*

Membership for these classes is recruited and organized to meet the needs of the community. They are considered an important part of the program in vocational education in agriculture. The teacher, with the support of the school authorities, conducts the classes, and assists the groups in planning their farming programs and suitable courses of study, just as he renders similar service for the all-day groups.

5. *Advising an F.F.A. Chapter.*

The teacher serves as adviser to the school chapter of F.F.A. He guides the planning of the program of work and assists with the leadership, cooperation, and citizenship training activities in any way possible. He encourages his boys to earn the advanced degrees in the F.F.A., and counsels with them in continuously evaluating the work of their organization.

6. *Placement and Follow-up of Pupils.*

Systematic surveys and complete files of placement and farming opportunities kept by teachers of agriculture are a constant aid for pupils toward establishment in farming. In this connection, the teacher cooperates with other placement or employment agencies and assists wherever he can in developing sound father and son partnerships. As a consequence, a well-organized system of follow-up records keeps the teacher in touch with all former pupils.

7. *Selection of Pupils for Vocational Agriculture Classes.*

Most teachers of vocational agriculture visit all prospective students on their home farms before enrolling them in classes. This is done in part to encourage the farm boys to enroll in vocational agriculture, but also to determine the interests, needs, and facilities in the home situation. Teachers also prepare and present information concerning the work of the department, which is often helpful in the guidance program of the school.

8. *Organizing and Maintaining Facilities.*

Because of the nature of the equipment and facilities necessary in departments of vocational agriculture, teachers must carefully organize systems of inventories, and must plan systematically to collect, preserve, classify, and store a wide variety of teaching materials, including books, bulletins, references, and laboratory specimens, as well as tools and equipment.

9. *Maintaining Satisfactory School Relationships.*

The department of vocational agriculture is coordinate with the other departments in a school system and the teacher of agriculture accepts his share of general school duties in faculty meetings, in making reports, and in the general school program.

10. *Cooperating in Nonschool Activities.*

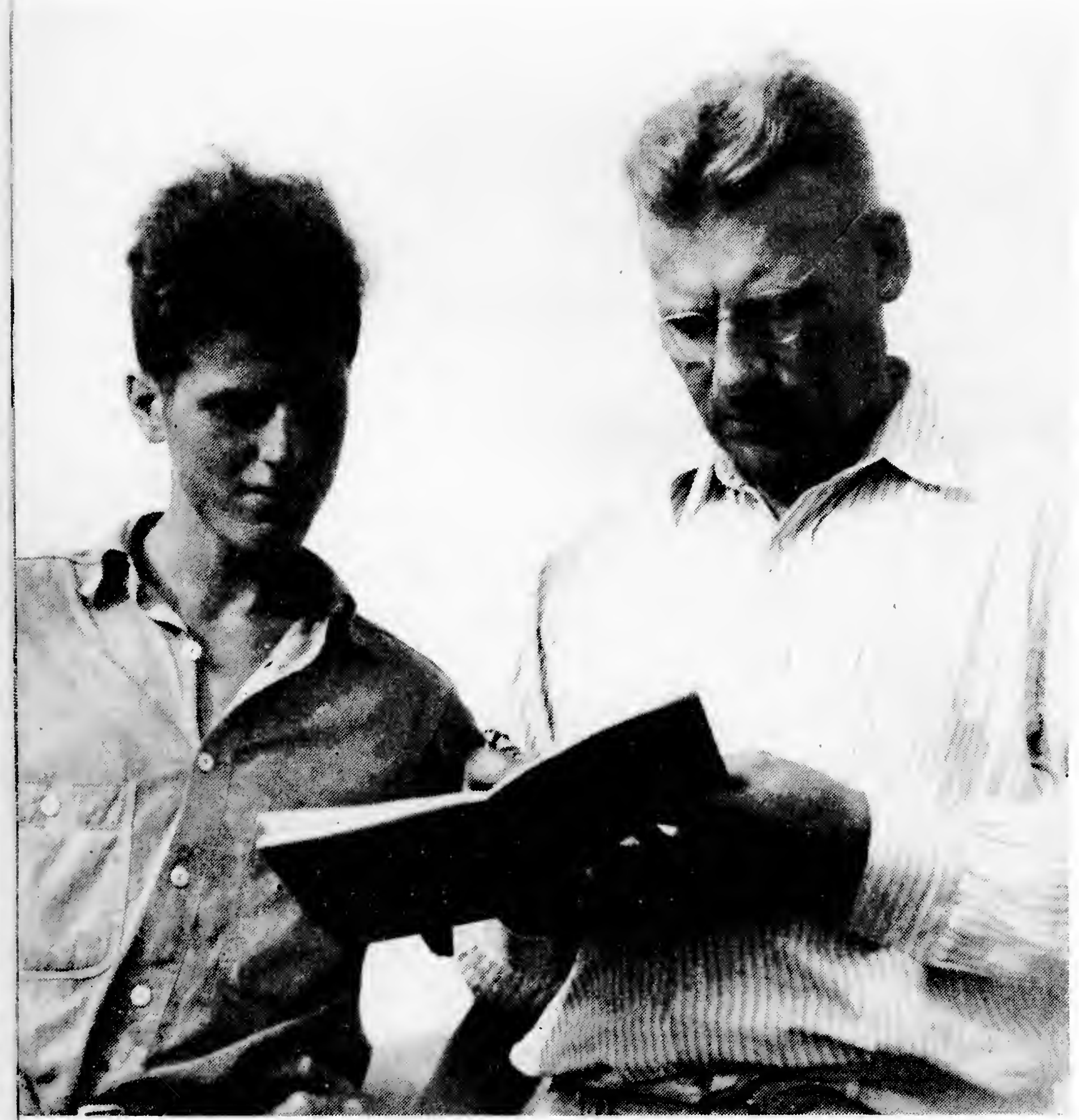
Working with other agricultural agencies in the community is definitely a part of the teacher's program. He will take his part in constructive efforts sponsored by both agricultural and nonagricultural organizations and will undoubtedly make use of their leaders in his instructional program.

11. *Keeping Records and Making Reports.*

The teacher of agriculture will prepare and file reports as necessary. Generally, in addition to any reports required in the local school system, he will keep the following:

a. Permanent record folder for each student
b. Supervised farming program plans for each student
c. Records of completed farming programs for each student
d. F.F.A. Chapter reports
e. Record of placement and present status of former students
f. Contest entries and reports
g. Travel expense reports
h. Enrollment and attendance reports
i. Annual reports as required by the Department of Public Instruction.
j. Cumulative file of annual plans for teaching

A Keystone Farmer committee in session during the Pennsylvania F.F.A. State Convention. Plans for the ensuing year are made in groups like this.



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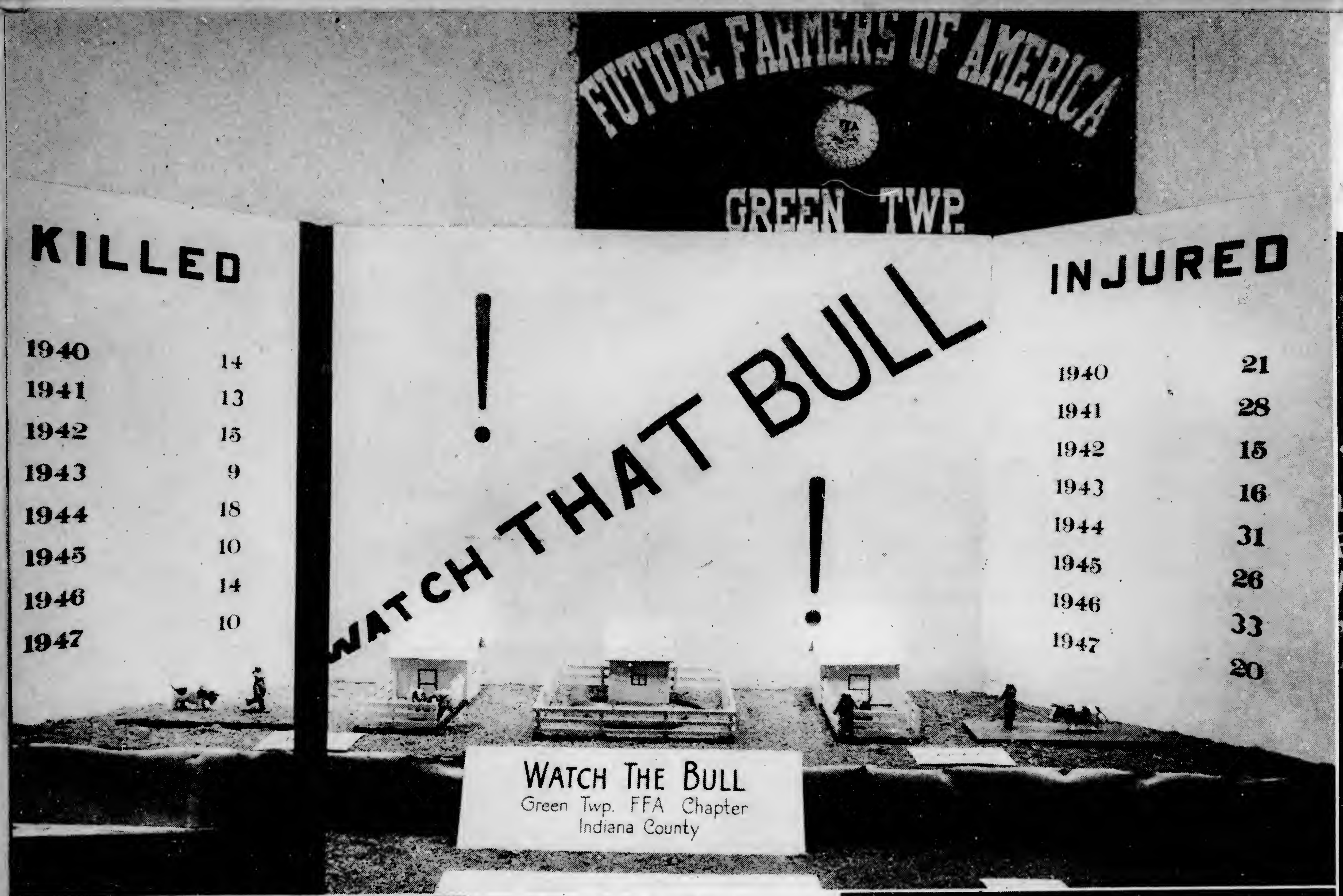


A winning display on farm safety exhibited in a Harrisburg store window during the Pennsylvania Farm Show.

← First prize booth exhibit shown by Hickory F.F.A., Washington County, at the Pennsylvania Farm Show.

12. *Promoting and Publicizing the Program.*

Timely news articles and pictures for publication will be prepared by the teacher of agriculture or by pupils under his direction. F.F.A. Chapters are quite active in presenting radio programs, exhibits, and demonstrations at local meetings or in connection with community, county or state fairs, and farm shows. With his students the teacher may plan assembly programs, field days, or tours to visit outstanding supervised farming programs.

13. *Evaluating the Effectiveness of the Program.*

The teacher will develop a plan for continuous evaluation of achievement in terms of the accepted objectives of the school and the program. Consideration will be given to objective factual data, such as number of approved practices adopted by pupils, number of farming skills developed, and number of pupils placed in farming or closely related occupations, as well as to the less easily measurable factors, such as kind and extent of leadership developed, or parent, employer, and community reactions to the program.

14. *Professional Improvement.*

There is an organized program of opportunities for teachers of vocational agriculture to keep up to date technically and professionally through local, district, and state meetings during the regular school year, and in summer sessions at the teacher-education institutions. Teachers are kept informed on regulations governing the program and will assist school officials in carrying out those regulations. It is, of course, the duty of the teacher to recognize and develop the new skills and abilities required for completely effective teaching.

Summer Activities

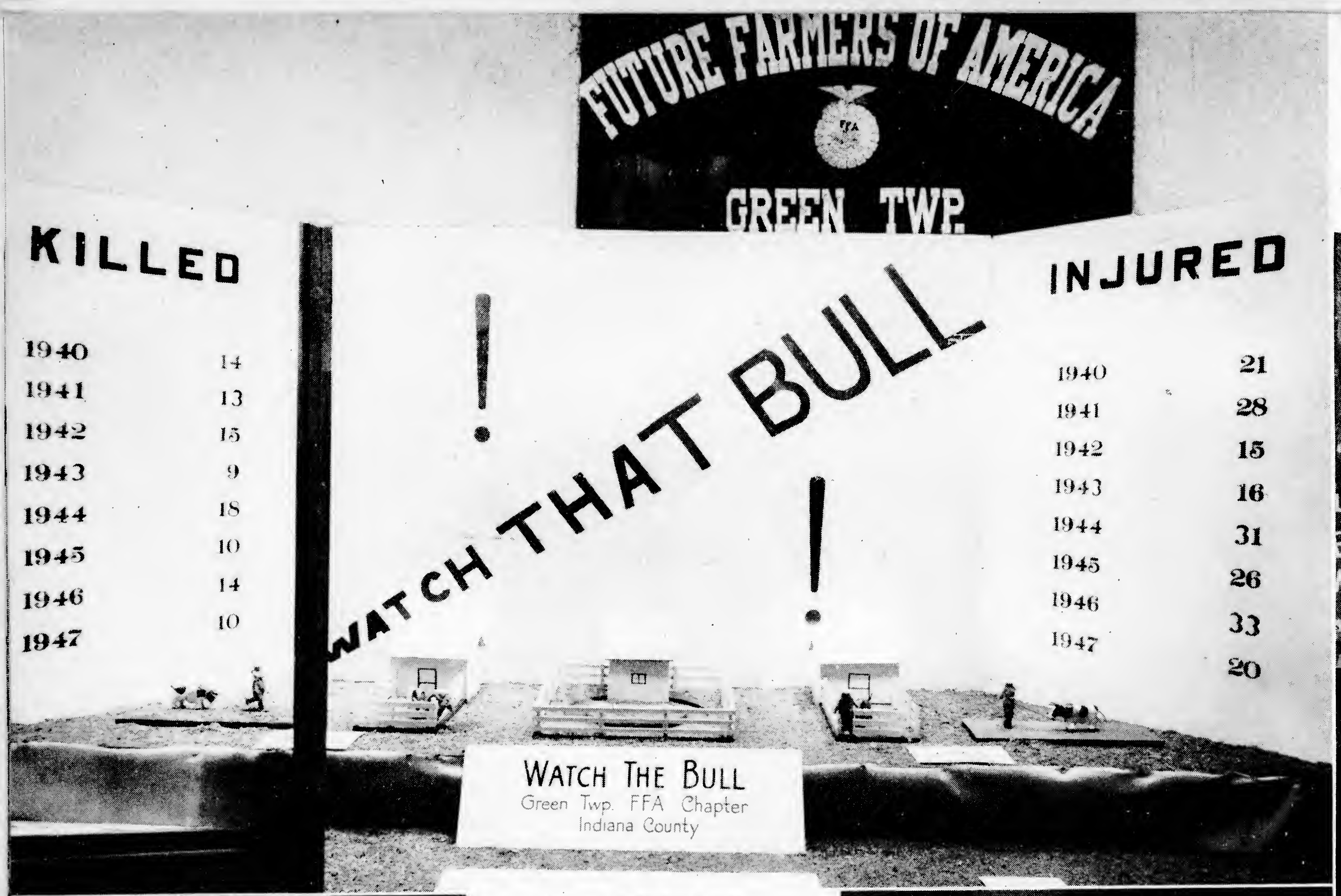
Some elements of each major division of the duties and responsibilities described in the foregoing paragraphs would naturally be accomplished during the summer months. Continued supervision of the farming programs during the growing season, collecting and preserving laboratory materials, field days and tours, and certain types of community surveys, are activities that would, of necessity, be a part of the summer program. Much of the planning, the organization of files and records, preliminary visits to prospective pupils, and various phases of professional improvement are also summer activities. The summer months are among the most important and profitable months of the year. After an active summer the teacher will enter his fall and winter school work with a greatly strengthened program and will have extended the influence of his department and the school in the community.

Chapter members of Slatington, Lehigh County, participating in an area broadcast.

Credits for Vocational Agriculture

School credit allowed for vocational agriculture, usually determined on the basis of Carnegie Units, will depend upon the credit system in different high schools and upon the amount of time scheduled for agricultural instruction in the school program. The minimum scheduled time for agriculture is 90 minutes daily or 450 minutes weekly. The recommended weekly time is 600 minutes.

It is recommended that the work in vocational agriculture, including both class work and the



A winning display on farm safety exhibited in a Harrisburg store window during the Pennsylvania Farm Show.

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Pleasant Valley Township High School, Bucks County. Inspecting a bee project.

student's supervised farming programs, be designated in the four high school years as: Agriculture I, II, III, and IV, and that the credit for each year be a minimum of 2, and usually 3, units. The minimum credit of two units is allowed when the student has completed the classroom work and conducted a satisfactory supervised farming program. An additional unit may be allowed as a recognition of a superior supervised farming program.

The following outline suggests how the work in vocational agriculture can be organized with the regular secondary school program for the State:

Year	*Subjects*	*Units of Work*	*Minimum Weekly Time*
1	Agriculture I	2 to 3	450 minutes
	English I	1	200 minutes
	Social Studies	1	200 minutes
	Health & Physical Education	⅓	120 minutes
	Mathematics	1	200 minutes
	Art*		50 minutes
	Music*		50 minutes
2	Agriculture II	2 to 3	450 minutes
	English II	1	200 minutes
	Social Studies	1	200 minutes
	Health & Physical Education	⅓	120 minutes
	Elect one:		
	Science	1	200 minutes
	Mathematics	1	200 minutes
3	Agriculture III	2 to 3	450 minutes
	English III	1	200 minutes
	Health & Physical Education	⅓	120 minutes
	Elect two:		
	Social Studies	1	200 minutes
	Science	1	200 minutes
	Mathematics	1	200 minutes
4	Agriculture IV	2 to 3	450 minutes
	English IV	1	200 minutes
	Health & Physical Education	⅓	120 minutes
	Elect two:		
	Social Studies	1	200 minutes
	Science	1	200 minutes
	Mathematics	1	200 minutes

*Required where 9th grade is part of the junior high school.

THE SUPERVISED FARMING PROGRAM

The Supervised Farming Program Defined

A well-developed, comprehensive, supervised farming program for a student of vocational agriculture commonly includes several distinct kinds of farming activity. The concept of a completely developed supervised farming program goes beyond the idea of a student "carrying," as a requirement, several different projects during the time he is in high school with perhaps little or no continuity or relationship existing between these projects. Instead, it means a steady building and "growing into" a farming business on the part of each student. This necessitates intelligent planning and development while farming in connection with the school work under the supervision of the teacher. It calls for farming experience, coupled with growth in project scope and quality, or both, as well as improvement step by step and year by year. The following classifications serve to distinguish the component parts in a student's supervised farming program.

1. *Productive Projects.*

These are business ventures for experience and profit which should continue through the ordinary cycle of the enterprise. Such projects are a fundamental part of the student's school work, supervised by the instructor, and carried to completion on a strictly business basis by the student. These productive projects should increase yearly in size and should aim to include the use of all the approved farm practices recommended for the enterprise. Examples of productive projects are: poultry raising, potato growing, swine raising.

2. *Improvement Projects.*

Improvement projects are undertakings involving a series of jobs designed to improve the appearance and real estate value of the farm, to improve the efficiency of the farm business as a whole, or to contribute to the comfort or convenience of the farm family. Improvement projects usually do not produce an immediate or direct income to the individual pupil and should not be substituted for productive projects. Examples of improvement projects are: keeping dairy herd records, beautifying the home grounds, renovating the pasture, reconditioning several pieces of farm machinery, and renovating the home farm shop. Records should be kept just as for productive projects.

Boyertown High School, Berks County. Future Farmers bringing in tomatoes from their chapter tomato project with a chapter-owned tractor.

3. *Supplementary Farm Practices.*

Small farm jobs for skill and experience lie outside of, or in addition to, the practices included in the student's productive or improvement projects. They should help to broaden his agricultural experiences but should not be regarded as his complete supervised farming program. Supplementary farm practices may be distinguished from the other phases of the student's supervised farming program by the fact that they have no direct relation to the productive projects and the improvement projects. Thus a student may be raising hogs, corn, and a dairy calf as his productive projects and, as supplementary practices, culling the home poultry flock, or spraying the orchard according to approved standards. The supplementary farm practices may be further distinguished from productive projects and improvement projects by their size or scope. For example, reconditioning several pieces of farm machinery may constitute an improvement project, whereas performing a single job, such as replacing the pitman rod

Pleasant Valley Township High School, Bucks County. Inspecting a bee project.

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Somerset High School, Somerset County. F.F.A. boys pruning an apple orchard.

in a mower, may be supplementary farm practice if such activity is not already included in the student's supervised farming program. Other examples of supplementary farm practices are: feeding the dairy herd, testing milk for butterfat, castrating pigs, treating seed, and pruning fruit trees.

4. *Placement for Farm Experience.*

This placement applies to students not living on a farm but interested in securing farm experience or whose home farm facilities are inadequate from the standpoint of type or opportunity. When students are placed for farm experience and training, the instructor should endeavor to secure the full cooperation of the farmer in making the work of the greatest possible educational value to the students concerned. A student should not be considered as satisfactorily placed for farm experience if he merely works on a farm for wages without a four-way understanding, including student, parent, farmer, and instructor.

5. *Group Projects.*

While the group class project is usually conducted for the purpose of raising funds for the local F.F.A. chapter, it should be considered as an important phase of the supervised farming programs of the pupils in that it can be used to supplement these programs. Group projects may provide additional supplementary farm practices for students who are unable to conduct certain practices on the home farm. They may lead to improved programs of supervised farming because production goals can be set and approved practices can be used which will motivate individual students.

Values of Supervised Farming

The supervised farming program planned on a long-time basis is an essential part of the pupil's agricultural instruction in the secondary school. If the boy is to prepare himself for farming, he should launch out in a long-time supervised farming program covering such enterprises as will give him the broadest experiences for his future work. Some major values of the supervised farming program are given below:

To the Student

Provides an excellent avenue to satisfactory establishment in farming
Develops a sense of values
Prevents costly errors and failures in later life when responsibilities are greater
Provides opportunity to learn how to earn, save, spend, and invest money
Provides exploratory experience that will assist in deciding what type of farming to enter
Provides opportunity to accumulate livestock, equipment, and land, and to build up gradually and "grow into" a farming business
Provides challenging real-life situations in which judgment, abilities, skills, habits, and attitudes are developed
Provides unusual opportunity to develop pride of ownership, self-confidence, initiative, and responsibility
Leads to better understanding and cooperation between parents and son
Provides desirable motivation for the learner

To the Instructor and School

Makes the supervised farming programs logically the *core* of courses of study and instruction
Gives definite purpose and direction to the study of agriculture
Serves as a basis for selection of material appropriate for instruction
Provides subject-matter material from real-life situations for more practical instruction
Keeps the instructor in closer touch with farmers and the farm life of his community

To the Home and Community

Contributes to the efficiency of the home farm and other farms in the community
Introduces standard approved practices on farms in the locality
Provides a valuable contact linking school, home, and community
Provides for more practical results in school work
Makes it possible for the school to serve better the people of the community

Elders Ridge High School, Indiana County. Pictured are Future Farmers of Indiana County showing their baby-beef projects. The winner, a student at Elders Ridge High School, standing on the extreme left, went to Ebensburg and competed in a three-county final contest.

An Example of a Supervised Farming Program

The supervised farming program given below is typical of many carried on in this State. It, of course, will be modified to fit the interests and facilities of the individual boy.

Productive Projects	*First Year*	*Second Year*	*Third Year*	*Fourth Year*
Dairy	1 heifer	1 cow and calf	1 cow and calf 1 heifer	2 cows 2 heifers
Poultry	300 broilers	300 chicks	300 chicks 100 hens	300 chicks 100 hens
Corn		1 acre	2 acres	4 acres
Swine				1 gilt
Improvement Projects				
Dairy Records	12 cows	13 cows	12 cows	14 cows
		Remodel laying house	Remodel and equip home farm shop	Build self-feeder for swine Remove old fence rows and contour hill fields
Supplementary Farm Practices				
	Reseed lawn Clip pasture Fit tools	Spray trees Recondition mower	Prune trees Treat seed oats Fit saw	Operate combine Butcher hogs Treat seed Top-dress pasture Winter-feed game birds Prune grapes

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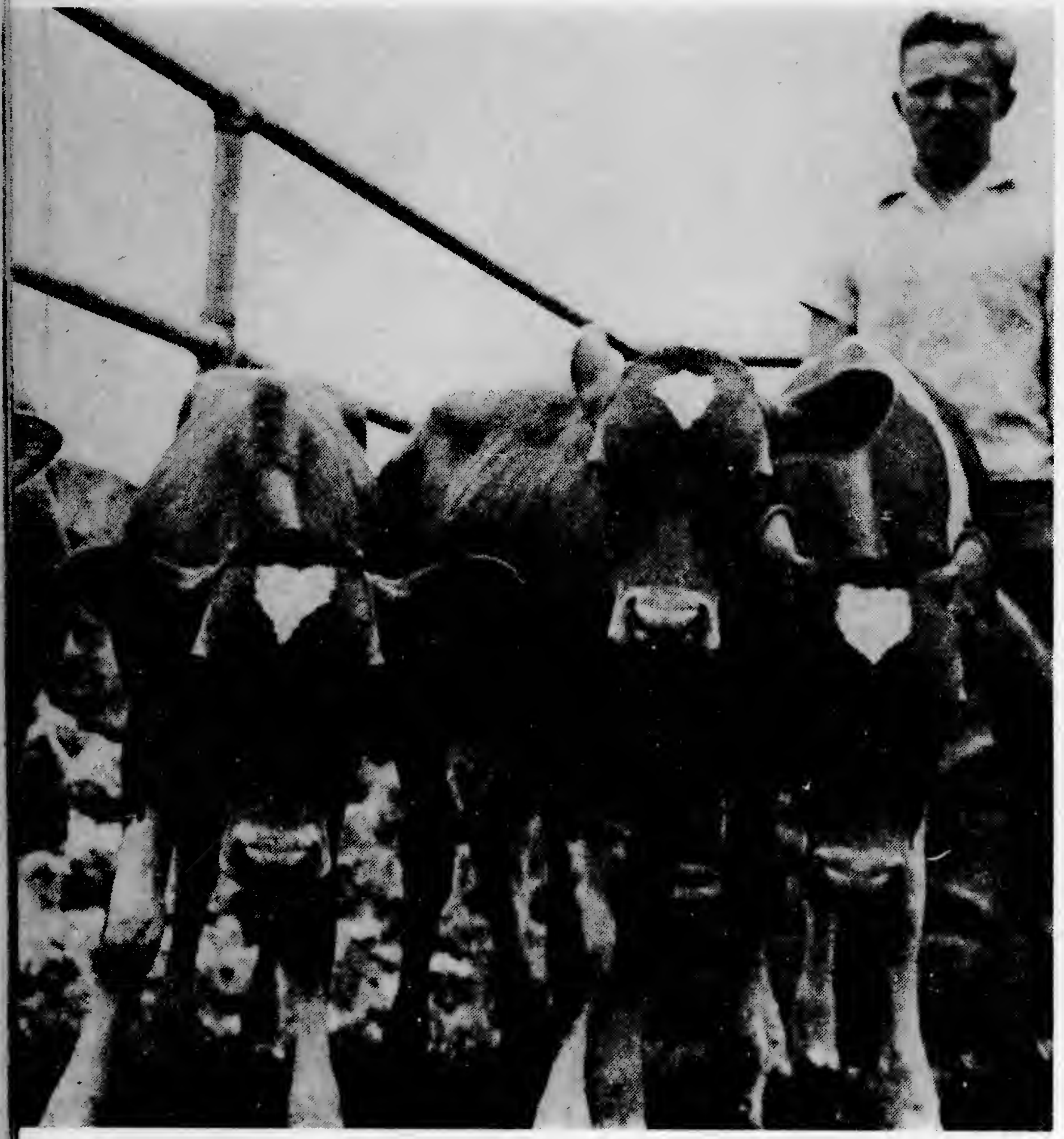


Boyertown High School, Berks County. A young Future Farmer with his purebred Guernsey heifer project.

The State Project Contest

Although the main objective of the supervised farming program is to provide an avenue for the student to become established in farming, an incentive for using approved practices and attaining certain production goals is provided through the State Project Contest which each year brings into competition productive projects and improvement projects from every school of the State. The winners of the State Project Contest are announced and awarded medals and buttons at the time of the State Farm Show.

Minimum Standards

Below are minimum standards for the State Project Contest. The standards for the project contest given below have become accepted in many schools as the minimum standards for acceptable projects.

Ownership Requirement

A minimum of 50 per cent ownership by the pupil is required for entrance to the Senior Project Contest, except in the case of Farm Accounts, Dairy Records, and Home Improvement. Full ownership should be urged. Boys should be encouraged to carry continuation projects. Dairy Records entered by the individual boys in the Dairymen's League F.F.A. Dairy Herd Management and Milk Quality Control Contest may also be entered in this contest.

Other Types of Projects

Small grains and tree fruits are also popular and profitable types of projects that may be added to the above list when the number of boys engaged in these types of productive enterprises justifies this recognition. Many small grain enterprises are conducted as supplementary projects. The State Project Contest list of enterprises is not a complete list of those activities which a boy may consider in fulfilling his supervised farming requirement. He may engage in other productive enterprises which have been approved by both home and school.

Junior Project Contest Regulations

Regulations applying to junior projects as set up by the State Project Contest Committee—

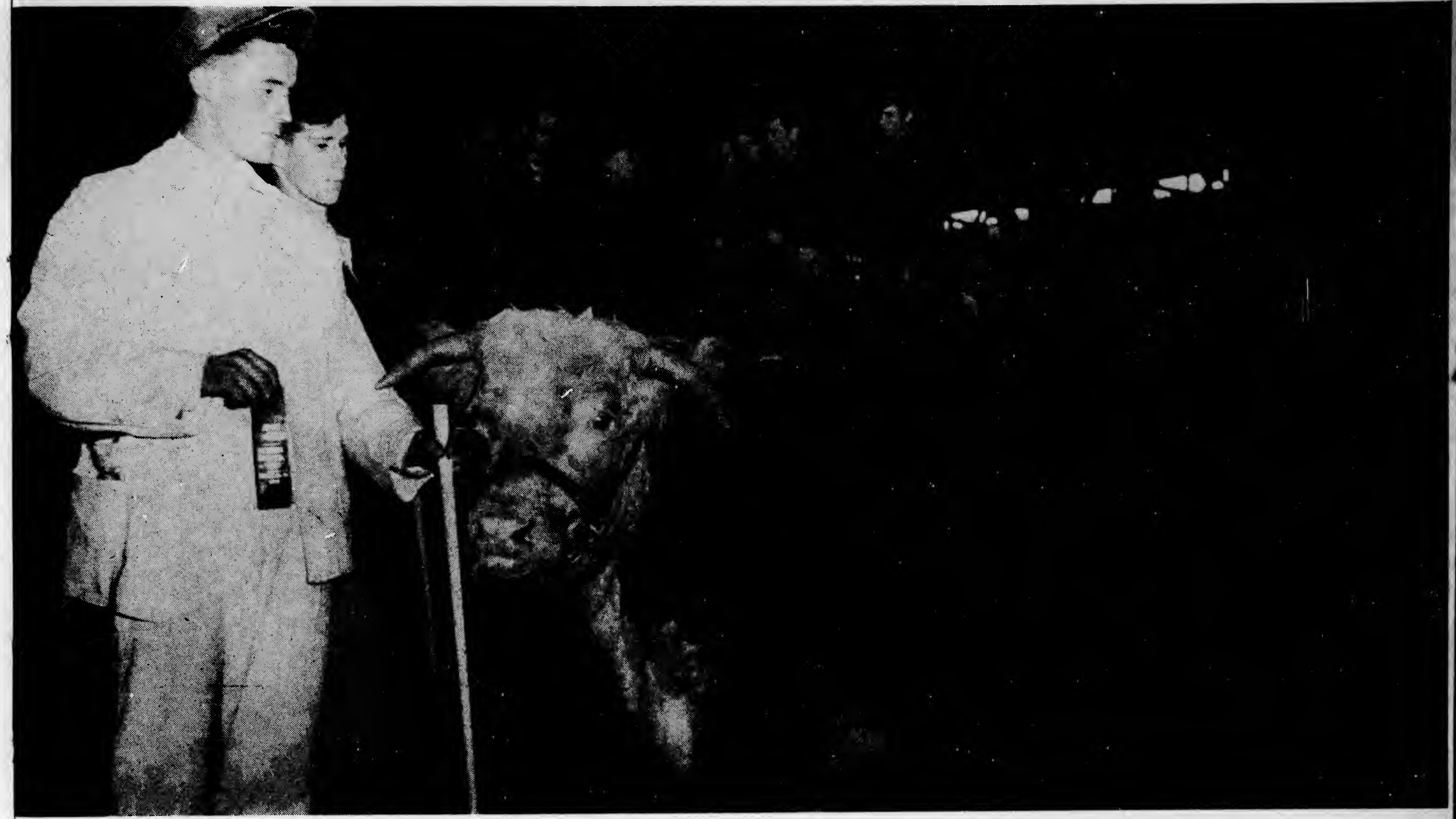
1. Pupils in the seventh and eighth grades at the time the project was started are eligible for this contest. Record should clearly indicate the grade. All ninth-grade pupils will be placed in the senior contest.
2. There will be awards for winners in the following types of projects: Potatoes, corn, dairy, hogs, garden (5 or more vegetables), and truck (less than 5 vegetables, sold wholesale or to cannery).
3. The project record must provide for (a) plans; (b) labor; (c) expenses; (d) receipts; (e) summary showing profit or loss; (f) story.

The regular senior project record is recommended in order to acquaint the junior students with single enterprise records. The book, however, should be clearly labeled "Junior Contest."

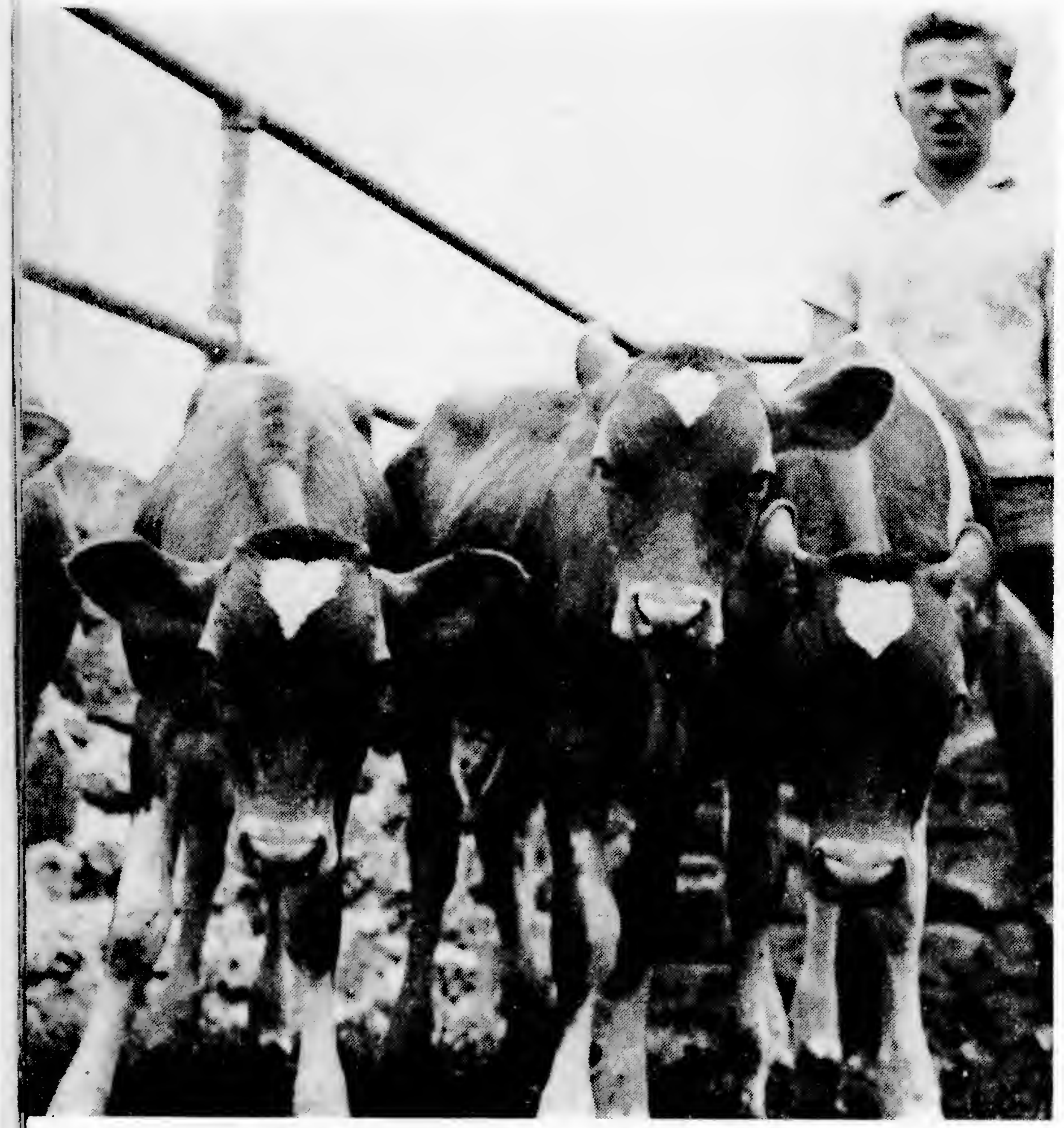
Since establishing the State Project Contest the projects have had a tendency to increase in both size and quality. Boys have found the project contest a stimulus for better record keeping, full ownership, and more approved practices.

Minimum Standards for State Project Contest

Type of Project	*Minimum Scope*
1. Beef Cattle	One animal
2. Beekeeping	Five colonies
3. Conservation	No minimum
4. Dairy (Cows)	One milk cow
5. Dairy (Calves)	1 purebred or 2 grades
6. Dairy Records	Record on five cows
7. Farming Program	3 or more projects
8. Field Corn	Two acres for grain or silage
9. Garden	3000 sq. ft. and 5 or more vegetables
10. Home Improvement	No minimum
11. Potatoes	One acre
12. Poultry—Chicks	300 chicks or 150 sexed pullets
13. Poultry—Hens	100 hens (Oct. 1 to Sept. 30)
14. Poultry—Broilers	Broilers—300 (total grown during year)
15. Poultry—Turkeys, ducks, capons	Capons—100 (total grown during year) Turkeys—100 (total grown during year) Ducks—100 (total grown during year)
16. Sheep	5 head
17. Small Fruits	3000 sq. ft.
18. Swine—Shoats	4 shoats
19. Swine—Sows	1 sow and litter
20. Truck or Canning Crops—Wholesale	10,000 sq. ft. (one or more vegetables)
21. Truck or Canning Crops—Retail	10,000 sq. ft. (one or more vegetables)
22. Farm Accounts Records	Twelve months (Production Credit Contest)



Zelienople High School, Butler County. Grand champion shorthorn steer at the Pittsburgh Livestock Show, shown by a student of the Zelienople F.F.A. chapter.



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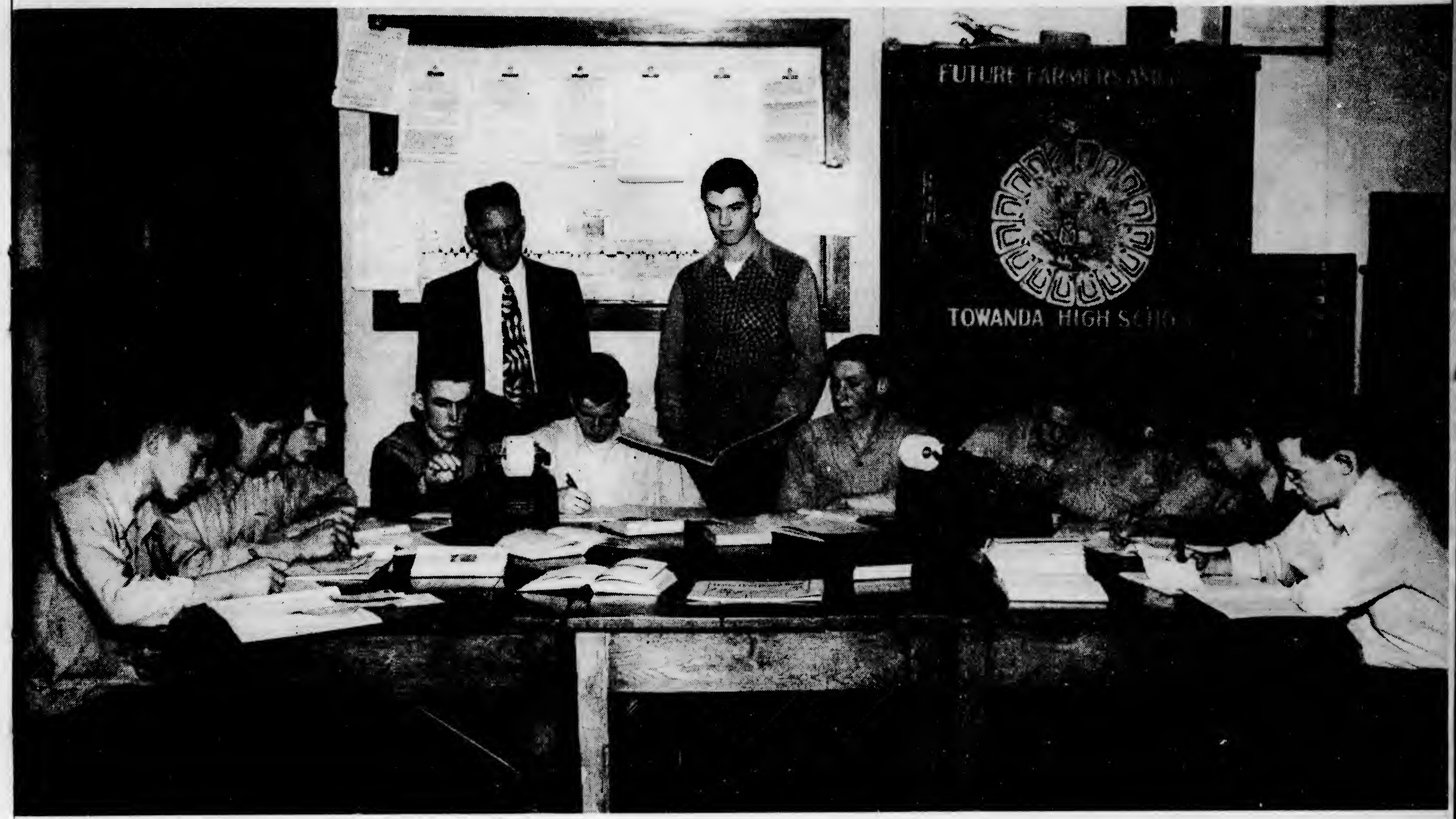
A PATTERN PLAN FOR INSTRUCTION IN ALL-DAY CLASSES IN VOCATIONAL AGRICULTURE

Based on 10 (45 to 60 min.) periods per week and a school year of 36 weeks

UNITS OF INSTRUCTION	Year Taught and No. of Periods			
	I	II	III	IV
Planning Supervised Farming Programs (Approved Practices—Production Goals—Keeping Records)	48	36	24	24
Fundamental Principles of:				
Soil Fertility	4	6	8	8
Feeding and Nutrition	2	8	—	—
Farm Building Construction and Sanitation	2	2	12	—
Topography and Climate	2	2	—	—
Fundamentals of Farm Mechanics (Including Tool Skills)	54	27	—	—
Farm Mechanics Problems (Related to Supervised Farming Programs)	54	81	144	144
Animal Production Problems Related to Supervised Farming Programs in:				
Dairy	14	48	14	14
Swine	10	14	24	8
Poultry	44	16	12	6
Sheep	—	2	2	6
Beef Cattle	—	2	2	6
Beekeeping	2	6	2	2
Crop Production Problems Related to Supervised Farming Programs in:				
Corn, Wheat, Oats, and Barley	8	4	—	10
Hay, Grasses, and Pasture	—	6	—	6
Potatoes	2	—	10	2
Canning Crops	—	6	6	2
Vegetables	32	—	4	2
Fruit Production Problems Related to Supervised Farming Programs in:				
Tree Fruits	—	4	—	6
Small Fruits	2	—	2	—
Marketing Farm Products	2	10	8	12
Keeping Farm Records	4	4	8	8
Conservation (Including Soil, Water, and Wild Life)	12	6	6	12
Improving Farm and Home Grounds	10	8	4	4
Farm Woodlot Management	—	4	—	4
Fundamentals of Farm and Home Safety	2	2	2	2
Rural Life (Including Community Organizations, Attitudes of Rural People, Laws Affecting Farmers, and Insurance)	—	—	6	12
F.F.A. Activities (Including Regular Meetings)	40	40	40	40
Other School Activities (Including Community and County Fairs, State Farm Show)	10	16	20	20
Total Periods for Year	360	360	360	360



Towanda High School, Bradford County. A teacher of agriculture giving instruction in farm accounts. The pupil who is standing placed first in the State Contest for three consecutive years.

THE PLAN FOR INSTRUCTION

The supervised farming programs of the boys enrolled in the classes constitute the basis for instruction in vocational agriculture. It must be understood, therefore, that the plan for instruction will differ in some respects in every school and may differ for the several classes or groups in the same school. It may be said, generally, that the teacher develops his teaching plans on the basis of the pupils' needs in their supervised farming programs, with constant regard for the nature of the agriculture in a particular community. The primary responsibility of the teacher is to assist and encourage his boys with the planning and development of supervised farming programs which are suitable to the home farm or other available farming facilities, and suitable also in terms of the agricultural background of the community.

The four-year plan for instruction on the opposite page is presented as a pattern. Adaptations will, of necessity, be made by teachers to suit the needs of the individuals in their classes. Some of the units of instruction in this pattern plan may not be involved in the supervised farming programs of a particular class group; they may not be important in a given community. They would, therefore, not be included in the teaching plan for that class in that community.

Similarly, and more commonly, the emphasis on, or amount of time to be allotted to, certain units will vary considerably. Such adjustments to meet the specific needs of the pupils are entirely proper and must be anticipated.

It will be noted that the unit on "Planning Supervised Farming Programs" is listed first. If the teacher is to base his instruction on the farming the boys are doing, it is reasonable that the planning for their

A PATTERN PLAN FOR INSTRUCTION IN ALL-DAY CLASSES IN VOCATIONAL AGRICULTURE

Based on 10 (45 to 60 min.) periods per week and a school year of 36 weeks

UNITS OF INSTRUCTION	Year Taught and No. of Periods			
	I	II	III	IV
Planning Supervised Farming Programs (Approved Practices—Production Goals—Keeping Records)	48	36	24	24
Fundamental Principles of:				
Soil Fertility	4	6	8	8
Feeding and Nutrition	2	8	—	—
Farm Building Construction and Sanitation	2	2	12	—
Topography and Climate	2	2	—	—
Fundamentals of Farm Mechanics (Including Tool Skills)	54	27	—	—
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Potatoes	2	—	10	2
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Similarly, and more commonly, the emphasis on, or amount of time to be allotted to, certain units will vary considerably. Such adjustments to meet the specific needs of the pupils are entirely proper and must be anticipated.

It will be noted that the unit on "Planning Supervised Farming Programs" is listed first. If the teacher is to base his instruction on the farming the boys are doing, it is reasonable that the planning for their programs must be given first consideration. Only a part of the hours allotted to this unit, however, will be grouped at the beginning of the school year. The teacher will accomplish much of the planning with individual boys on their home farms before the school year begins. Then, the school time in this unit will allow for continued week-by-week review of procedures, check of accomplishments, and keeping of records. It must be understood that these reviews of the practices the boys must learn and use, if they are to have reasonable expectancy of success in their enterprises, will also provide many opportunities for the teaching of skills and technical information. The periods allotted to study of production problems in the various agricultural enterprises are intended to be devoted to the technical and managerial problems pertinent to the boys' own farming programs. Many of these problems will be "common ground" and will involve and interest all the members of the class; but it is also to be expected that at certain times a teacher might rightfully have individuals or small groups of boys working during the same period on entirely different and separate problems. At times this is logical and necessary in order to meet the individual needs of the boys and to meet the urgency of seasonal work.

It should be pointed out that the order in which the units of instruction are listed in the pattern plan has no significance with respect to order of teaching. Nor is it implied that the periods allotted to any one unit will be a consecutive block of periods at a certain time in the school year. The arrangement for seasonal sequence and timeliness in the light of needs is the responsibility of the teacher. Most teachers, after surveying and summarizing the needs of the members of a class, will determine the amount of teaching emphasis for the several broad units of instruction. Then those units will be broken down into the jobs involved in the boys' programs. Finally, the jobs involved will be analyzed into the daily lessons which will be organized with respect to season and need into monthly teaching calendars. For example, on page 19 is one teacher's plan for the month of October.

It will be noted that in this case the third- and fourth-year boys are put together in one class. This is a rather common procedure made necessary in many cases where schools are operated on the 60-minute period plan with six periods in the school day. It is possible, then, for the teacher of agriculture to have only three classes. This grouping of junior and senior boys is not undesirable, and sometimes makes it possible to increase the amount of time allowed for agriculture in the upper-class years.

In this connection attention should also be given to arranging schedules so that each class group has sufficient consecutive time for at least one field trip per week. Much of the teaching in agriculture can be done in real settings and teachers should be allowed and encouraged to take advantage of this fact.

With respect to time devoted to the teaching of agriculture, it is important to remember also that even though classes are taken on field trips, and a considerable part of the instruction in the school is of a demonstration or laboratory nature, the real laboratory for this program is on the home farms of the boys. Teachers are expected to visit the farms and to relate all instruction to the home farm situations. Time so spent is laboratory instruction and is an integral part of the program in vocational agriculture.

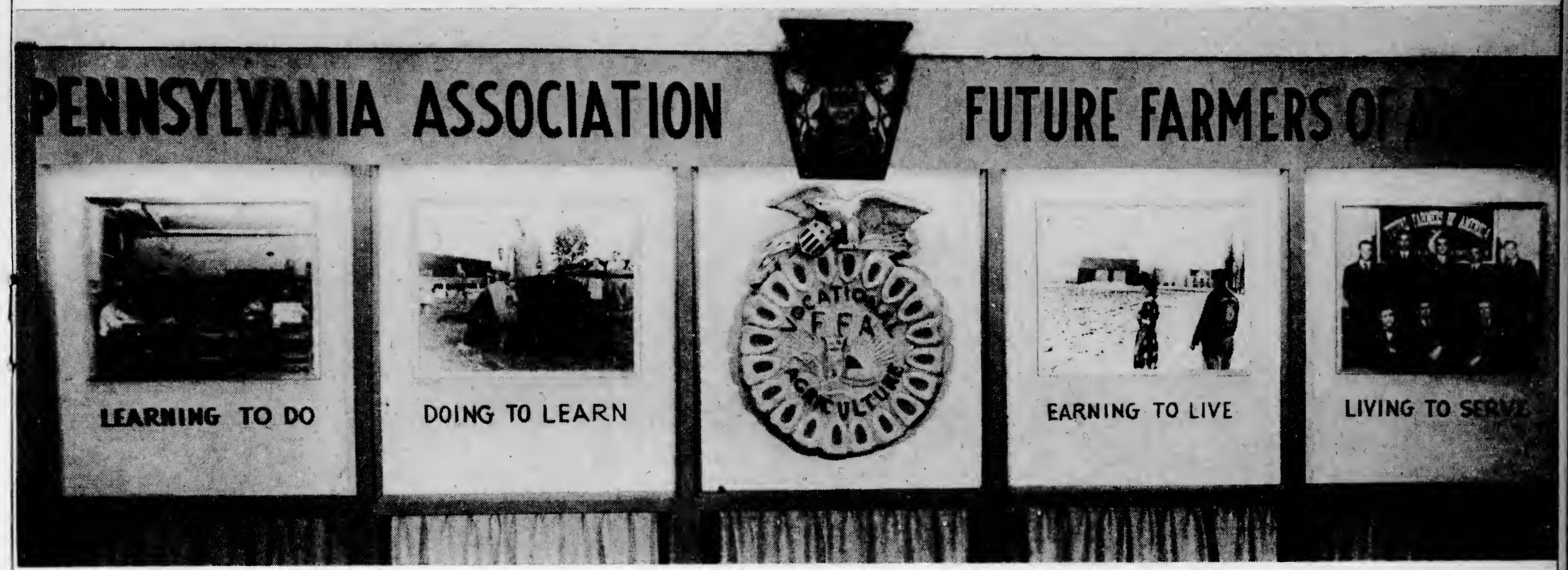
MONTHLY TEACHING CALENDAR

MONTH—October YEAR—19 -19
SCHOOL DAYS IN MONTH—21
PERIODS FOR AGRICULTURE—42 (Each class)

		YEAR AND NO. OF PERIODS					
		AGR. I		AGR. II		AGR. III & IV	
Unit or Enterprise	*Job or Lesson*	*Class*	*Field Trip or Laboratory*	*Class*	*Field Trip or Laboratory*	*Class*	*Field Trip or Laboratory*
PLANNING SUPERVISED FARMING PROGRAMS	Home Farm Survey (Intro.)	2	4	—	—	—	—
	Making Agreements	2	—	2	—	—	—
	Summarizing Records	—	—	—	—	2	—
FUNDAMENTAL PRINCIPLES OF FEEDING	Nutritive Ratio	—	—	2	—	—	—
DAIRY PRODUCTION	Feeding Dairy Cows	2	—	—	—	—	—
	Testing Milk for Butterfat	—	—	2	4	—	—
	Preventing Odors in Milk	—	—	—	—	2	4
SWINE PRODUCTION	Marketing Fat Hogs	—	—	2	—	—	4
	Selecting Breeding Stock	2	2	—	4	—	—
POULTRY PRODUCTION	Culling Laying Hens	2	2	—	2	—	—
	Feeding Laying Hens	4	—	—	—	—	—
	Housing Layers	—	2	—	—	—	—
	Fancy Packs for Market	—	—	—	—	—	2
CORN PRODUCTION	Controlling Corn Borer	1	—	—	—	—	—
PASTURE MANAGEMENT	Seeding Hay Crops	—	—	1	—	—	2
	Fertilizing Hay and Forage Crops	—	—	1	—	—	2
FARM MECHANICS	Sketching Working Plans	2	2	—	—	—	—
	Shop Safety	2	—	—	—	—	—
	Fitting a Plane Iron	2	4	—	—	—	—
	Fitting a Cold Chisel	—	—	2	4	—	—
	Building Repair—Concreting	—	—	2	4	2	4
	Machinery Repair Problems	—	—	—	—	—	8
F.F.A. MEETINGS	The Creed	4	—	—	—	—	—
	Parliamentary Procedure	—	—	4	—	4	—
OTHER SCHOOL ACTIVITIES	Community Fair	1	—	—	4	—	4
TOTAL PERIODS FOR MONTH		42		42		42	

Millcreek Township High School, Lebanon County. Holstein heifer, first prize Pennsylvania Farm Show.

Kutztown High School, Berks County. A member of Kutztown F.F.A. shows his grand champion Ayrshire cow at Reading Fair.



An exhibit of the State Association showing activities of its members.

II

The Future Farmers of America

THE FUTURE FARMERS OF AMERICA, the national organization of farm boys studying vocational agriculture, is an integral part of the program of vocational education in the public schools. The activities in which the members participate develop agricultural leadership, cooperation, and citizenship. The ideals of a democratic society are cherished and promoted by farm boys who, working together with mutual goals, build a faith in themselves as farmers, a faith in farming as a way of life, and a faith that other farmers will share the responsibilities in striving toward the broader horizons of American rural life.

Organization of F.F.A.

The local F.F.A. Chapter in each high school department of vocational agriculture is the functional operating unit. In 1948-1949 the State Association in Pennsylvania comprised 268 local chapters with a total active in-school membership of over 8,600 farm boys. The thirty-three supervisory areas in the State conduct a variety of activities, including leadership training, for the benefit of boys in the local chapters in their respective counties. Each local chapter is, however, directly affiliated with the State Association.

There are four degrees in the Future Farmers of America; namely, Green Hand, Chapter Farmer, Keystone Farmer, and American Farmer. Each degree has specific qualifications based upon attainment in vocational agriculture and leadership which must be met for advancement in degrees.

A boy becomes eligible for the Green Hand Degree of membership in the F.F.A. when he has enrolled in vocational agriculture and has planned a

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(Illustrations on pages 22-23)

Top, right—Mt. Union High School, Huntingdon County. Preparing farm machinery in the school shop.

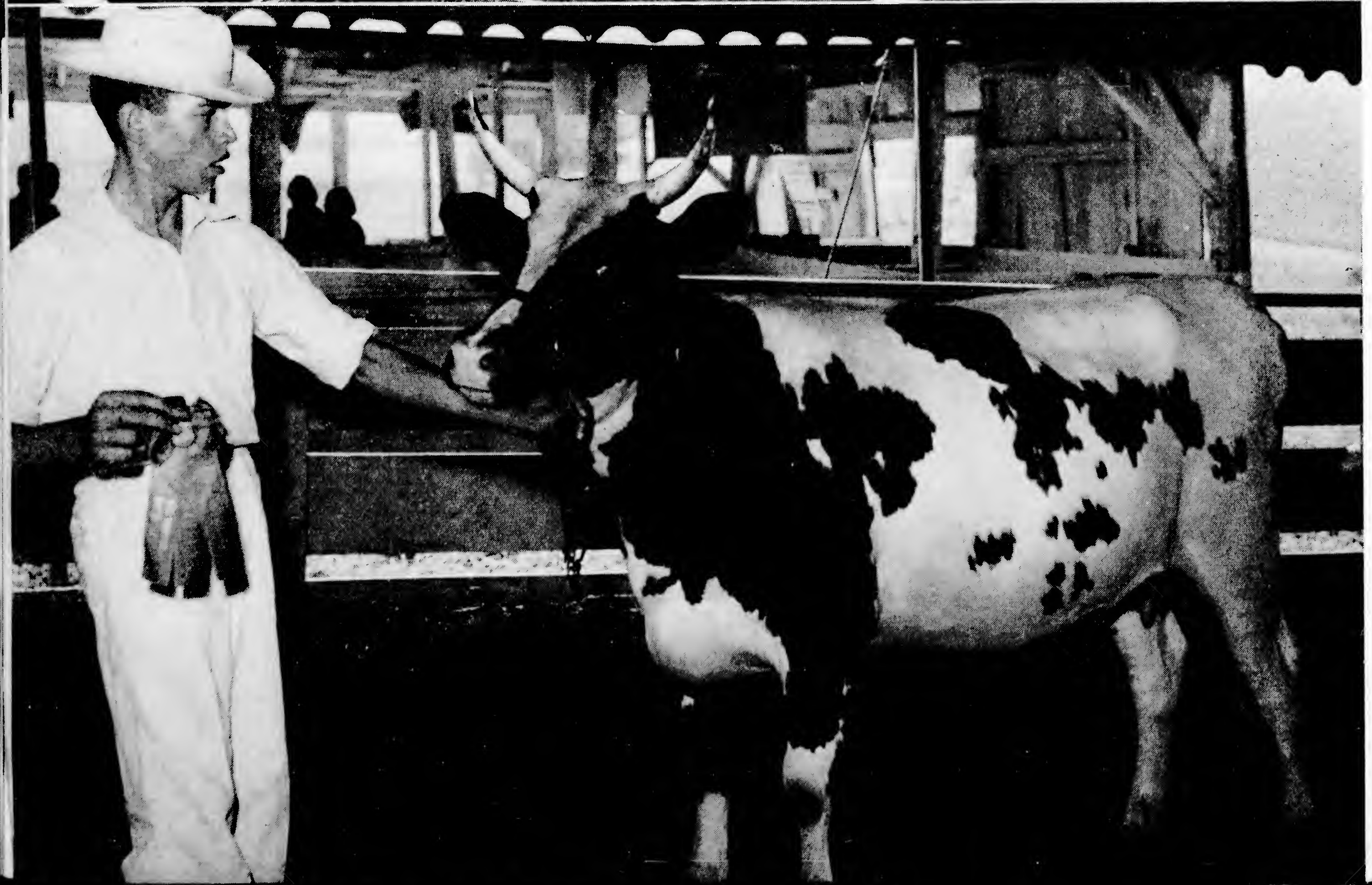
Center, right—Quakertown High School, Bucks County. F.F.A. boys selecting breeding gilts from the Chester White herd at the high school farm.

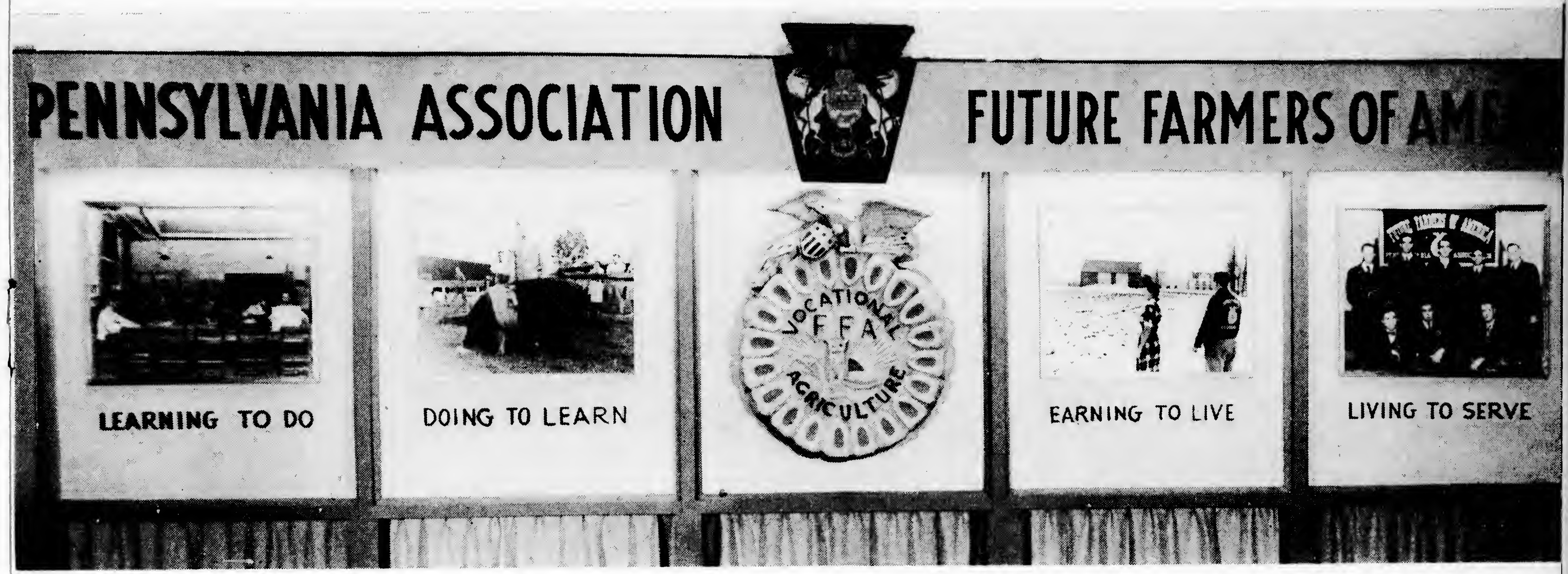
Bottom, right—School Farm, modern swinehouse and equipment.

Top, left—Judging potatoes, F.F.A. Week, State College.

Center, left—F.F.A. boys and their instructors from Bucks-Lehigh-Montgomery area attend the State F.F.A. Week at State College.

Bottom, left—Freshmen boys of the Vo-Ag. class take off a hatch of chicks from a chapter owned incubator at Tunkhannock H. S., Wyoming County.





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Perkiomen Clipper
PENN STATE

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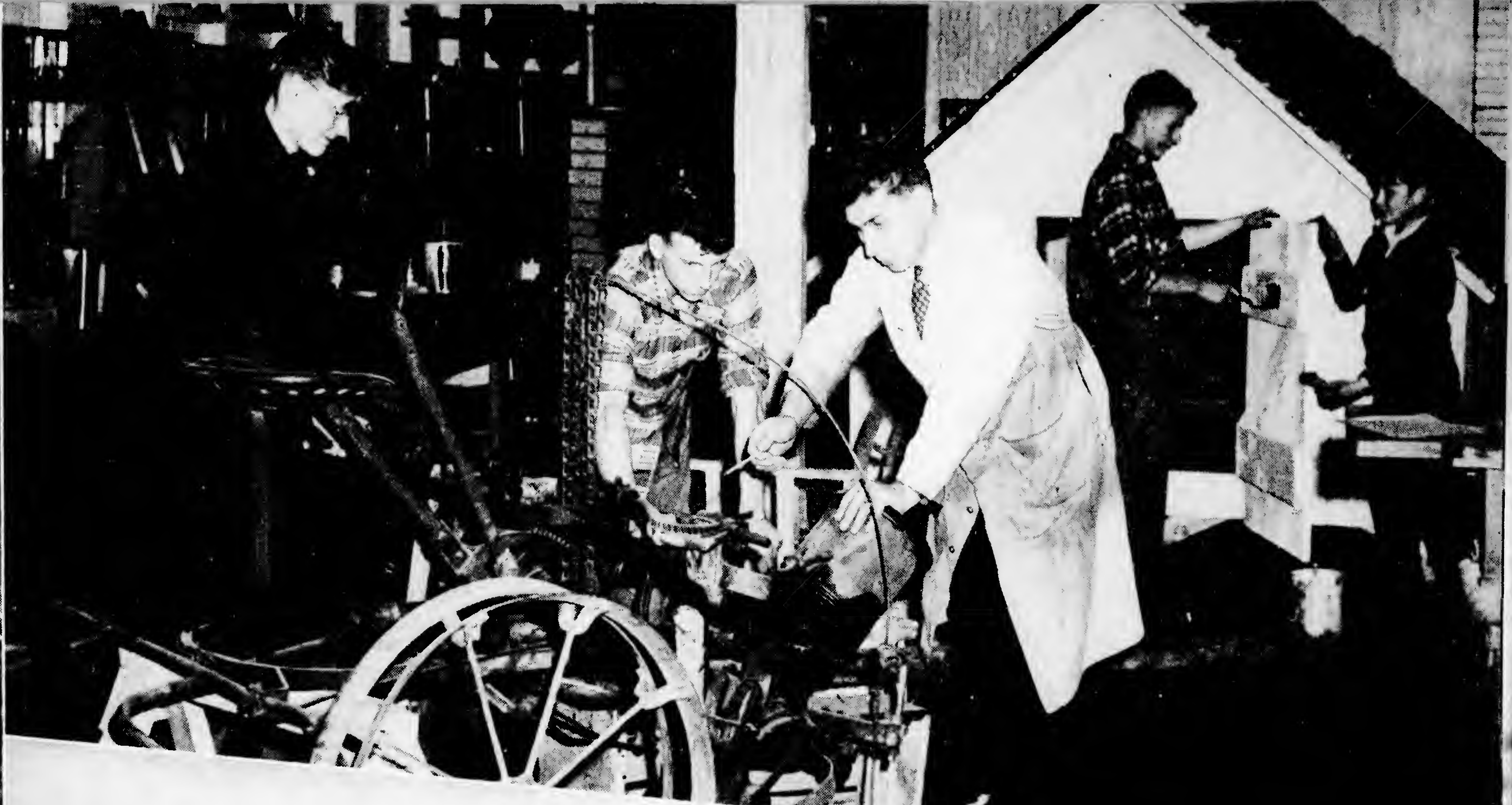
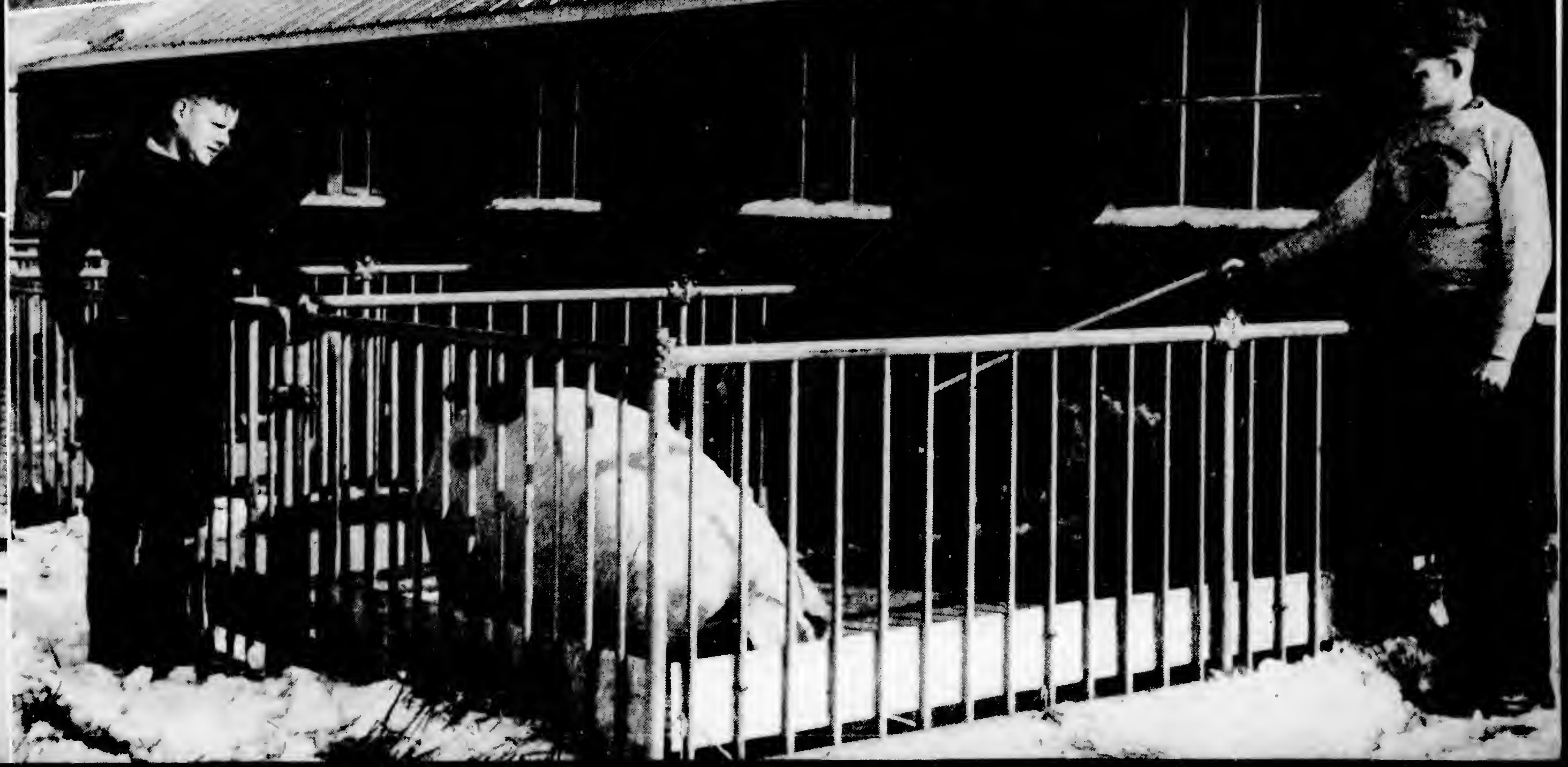
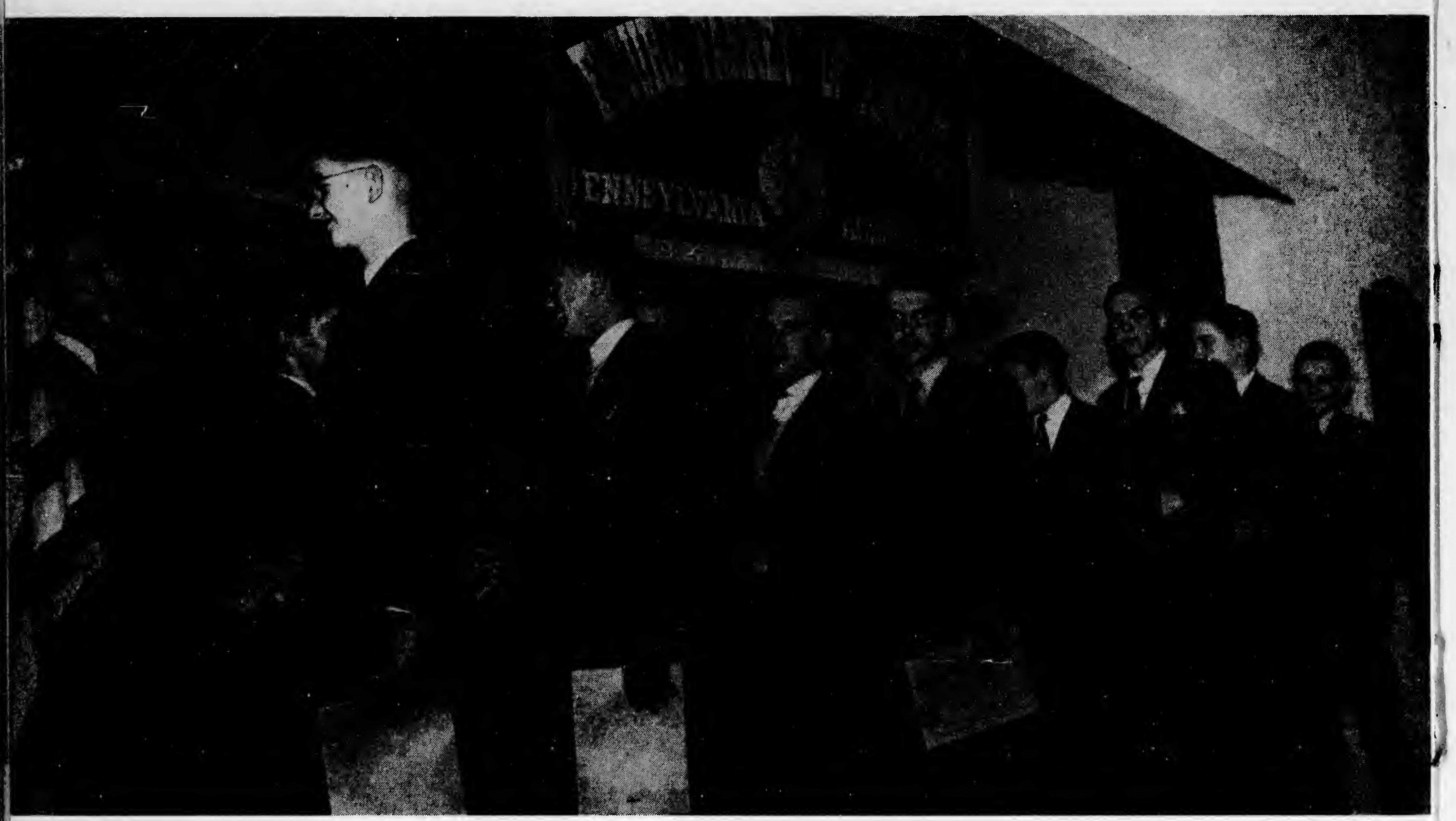






A group of Keystone Farmers receiving their certificates from H. C. Fetterolf, Chief, Agricultural Education, Department of Public Instruction, at an annual convention held at Harrisburg.

satisfactory supervised farming program. The Chapter Farmer Degree may be earned upon completing at least one year in vocational agriculture, having in operation an improved farming program, being familiar with the purposes and procedures of the organization, and having a record of satisfactory participation in F.F.A. activities. This is the highest honor which may be conferred by any local chapter.

Each year the State Association may award the Keystone Farmer Degree to not more than two per cent of the active membership, provided the minimum qualifications have been met. These include the satisfactory completion of at least two years of instruction in vocational agriculture; the development of an outstanding supervised farming program from which the boy must have earned and deposited in the bank, or otherwise productively invested, at least $250; and the achievement of a superior record of leadership and participation in student, chapter, and community activities.

Similarly, one boy in each one thousand active members may be nominated each year for the American Farmer Degree, the highest honor in the National Organization. A candidate must have held each of the three prerequisite degrees, been an active member continuously for thirty-six months, have earned and invested at least $500, been out of school at least twelve months, and have continued to develop a superior farming program.

Advancement in the F.F.A. for each boy depends directly upon the results achieved in the development of his supervised farming program and in his growth and participation in leadership and cooperative activities. The honor of attaining each higher degree may be won only upon merited achievement. Because the requirements for each degree are based upon real-life goals of farm boys, they strive wholeheartedly to reach them. The boys are helped to recognize their needs and to set attainable goals; they are guided in the organization and direction of appropriate group activities; and they are aided in the self-evaluation of the results achieved.

Meetings of F.F.A.

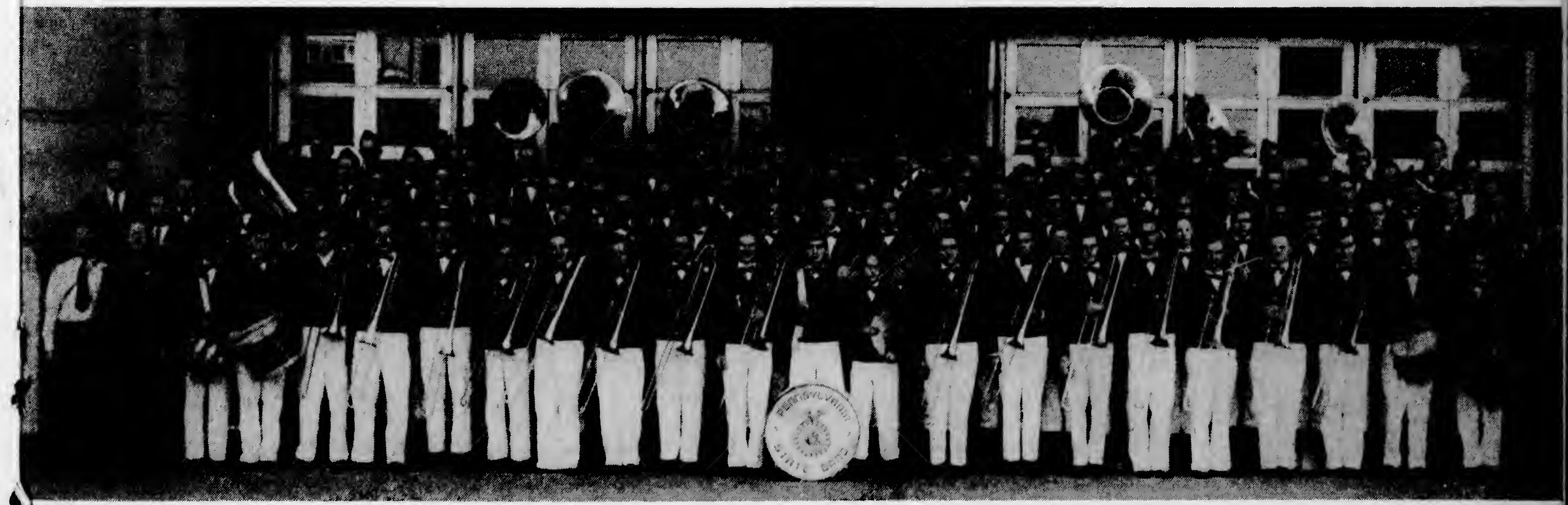
The State Association holds two general meetings each year. The annual business meeting is conducted by the elected delegates at the time of F.F.A. Activities Week at State College, in June. The other meeting is held at the time of the Pennsylvania State Farm Show at Harrisburg, in January, at which time the Keystone Farmer Degree is conferred and the awards in the State Project Contest are made. An Advisory Council of six area advisers assists the State officers in their preparations for the two meetings and makes recommendations to the State Adviser concerning the business of the executive committee.

In addition to sponsoring the state-wide leadership training program, the annual judging contests, and the various other awards, the State Association publishes a monthly magazine, *The Keystone Farmer*, and maintains the State F.F.A. Band. The Pennsylvania Future Farmers of America Band made its first appearance at the State Farm Show in 1936. It has since been designated annually as the official band for the State Farm Show. The Band is composed of one hundred boys recruited from the local chapters in the State.

State Program of Activities

The State Association and the several supervisory area federations of local chapters have developed a program of assisting in the training of boys for proficiency in the conduct of meetings and in the development of effective programs of work for local chapters. The program of work outlines activities covering a definite period and includes specific goals, ways and means of reaching them, and adequate provision for checking on the accomplishments. Well-planned, written programs are essential to successful chapter operation. They should be based primarily on the needs of the members and the organization as a whole, together with the needs of the school and community of which the local chapter is an important part.

All chapters engage in activities which assist the members to increase their ownership in productive enterprise projects and to improve their farming practices. Many conduct tours to recognize individual members' success and provide awards for outstanding accomplishments in farming. Cooperative activities among the local chapters in an area rank high in their training value for citizenship and leadership development. These include interchapter initiations, basketball games, public speaking contests, tours, and conferences. Cooperation with established farm organizations in the community helps to lead boys directly into active adult membership. Within reasonable limits, there is value to be gained by individual boys from unselfish service in an activity chosen by the group for the general benefit of farmers and the community. Attending State meetings and area leadership training schools, preparing and putting on radio programs, speaking before school and community meetings, planning and conducting



The Keystone F.F.A. Band of 100 pieces was the official band for the Victory Convention of the National Association at Kansas City. Dr. H. S. Brunner of Pennsylvania State College is conductor. This band has been invited every year since its organization to play at the Pennsylvania Farm Show.

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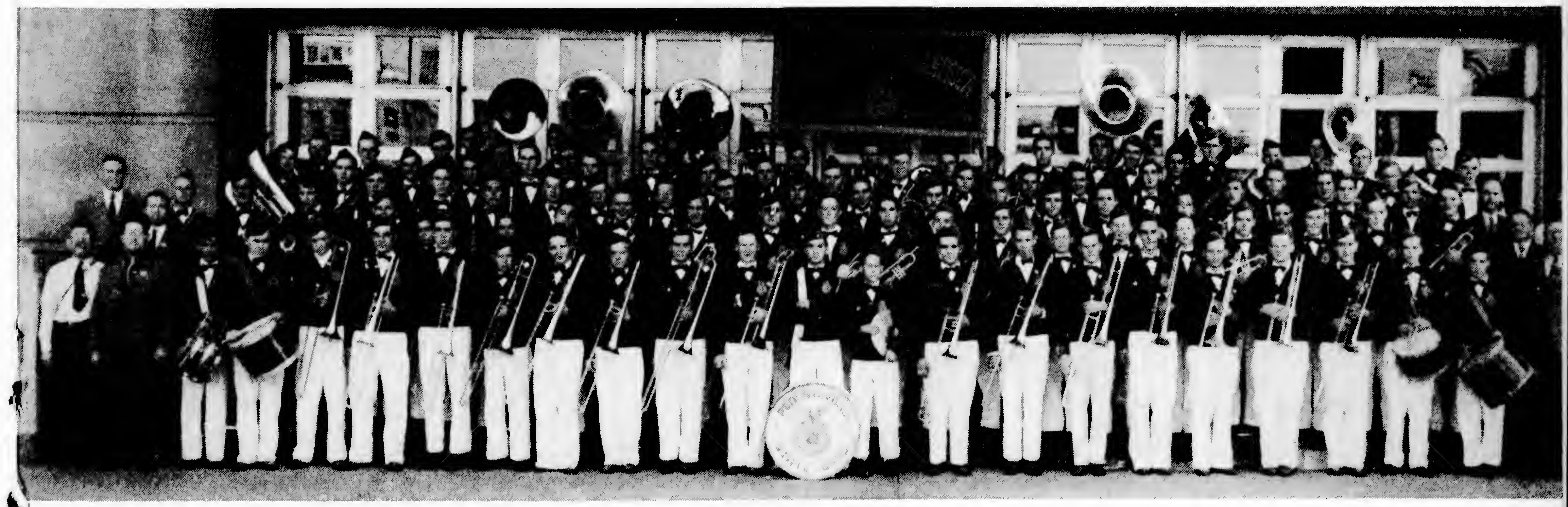

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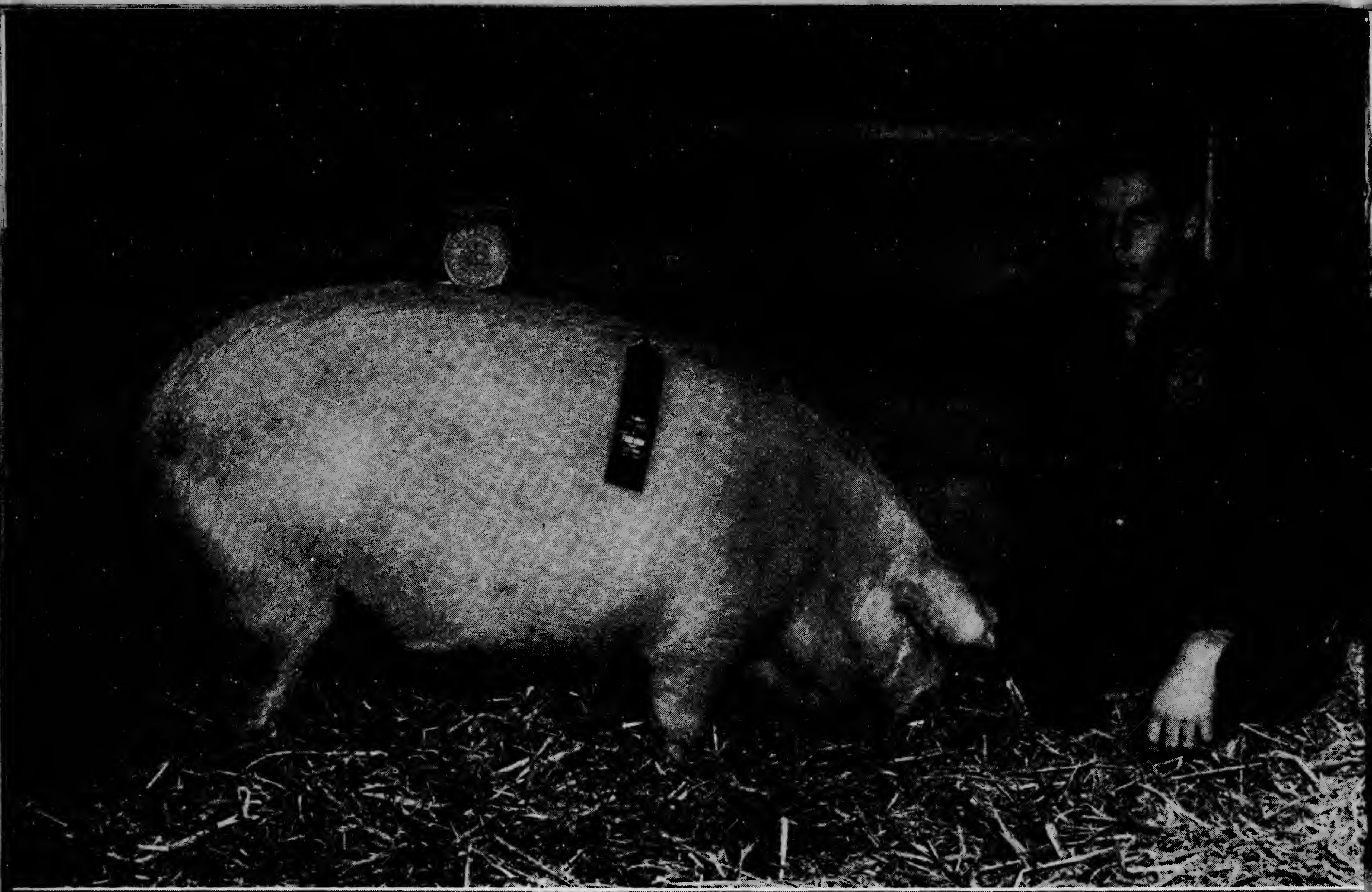


Hallam High School, York County. Assembling an F.F.A. cooperative order of vegetable seeds. One of the objects of the organization is to develop cooperation.

chapter meetings—all are effective in the development of skill in leadership. Participation in group effort is the proving ground for the expression of desirable character traits. The F.F.A. chapters exert a wholesome influence upon boys in building habits of thrift, in rewarding scholarship, and in teaching a proper balance between work and recreational interests. The parent and son banquet is a highly regarded example of the latter.

The ultimate goal for each boy is that he may more readily become a leader in the established agricultural, religious, civic, and social organizations in his community. A notable characteristic of the best local chapters is that every individual member has a part in as many activities as possible, chosen with regard to his needs, interests, and abilities.

A good chapter has interested members and capable officers and leaders. It has a challenging program of work backed by adequate provision for financing the activities. Well-distributed responsibility is shared by all members. The chapter has all necessary equipment and maintains a good system of records. A detailed knowledge of the F.F.A. is possessed by every member.

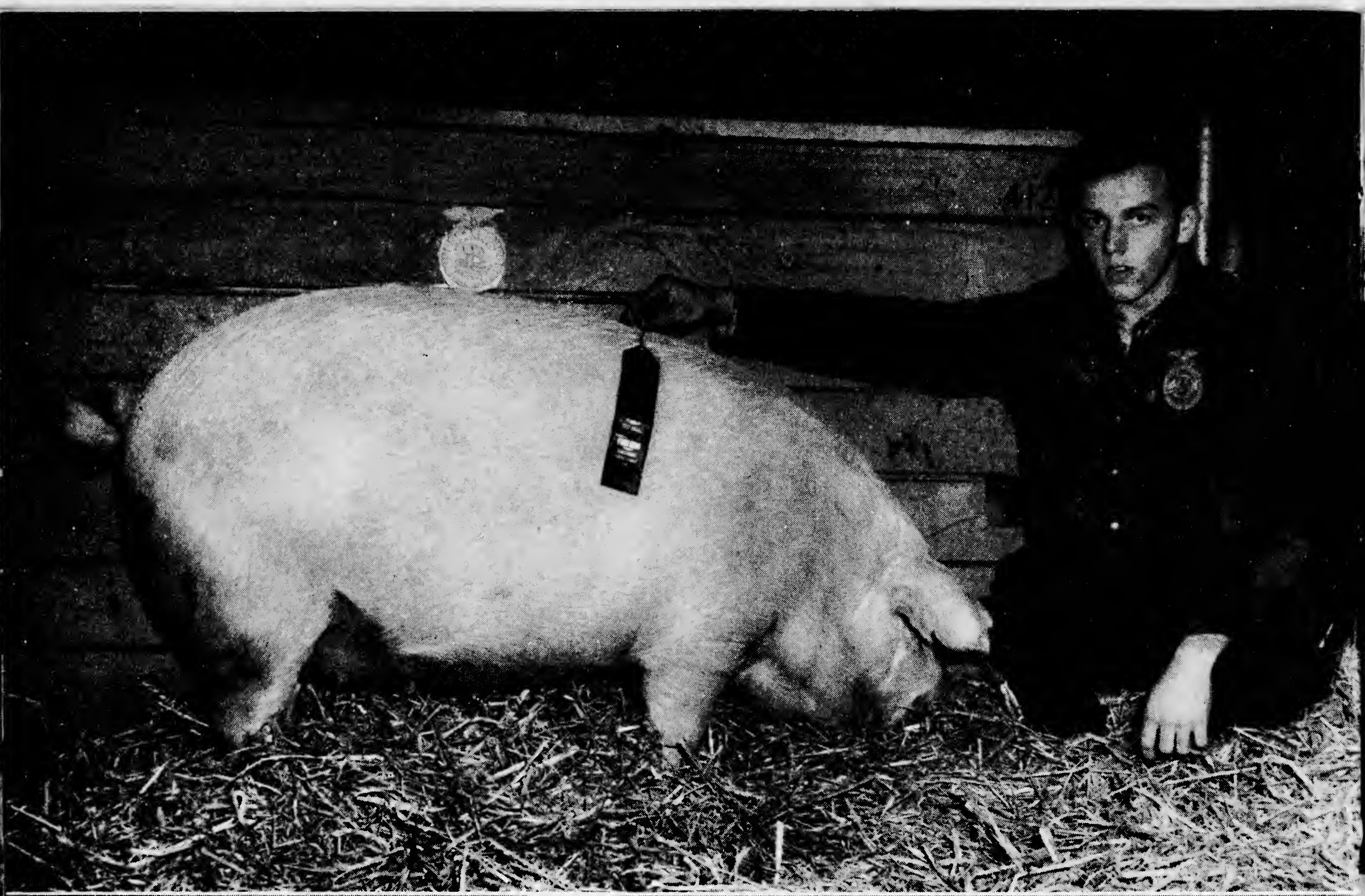
Ideals and Aims of F.F.A.

The ideals of the Future Farmers of America are clearly stated in the Creed and in the Aims and Purposes as outlined in the Official Manual. In addition to the primary aim of development of agricultural leadership, cooperation, and citizenship, the democratically planned and conducted activities of the F.F.A. Chapter have demonstrated their value in:

1. Encouraging members in the development of individual farming programs and establishment in farming
2. Creating more interest in the intelligent choice of farming occupations
3. Strengthening the confidence of farm boys and young men in themselves and in their work
4. Encouraging members to improve the farm home and its surroundings

New Oxford, Adams County. Chester White Jr. Sow, first prize, State Farm Show.

← **A student of Marion Center F.F.A., Indiana County, exhibiting his grand champion bred-gilt at Indiana-Cambria County Bred-Gilt Sale. This animal sold for $150.**



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Hallam High School, York County. Assembling an F.F.A. cooperative order of vegetable seeds. One of the objects of the organization is to develop cooperation.

chapter meetings—all are effective in the development of skill in leadership. Participation in group effort is the proving ground for the expression of desirable character traits. The F.F.A. chapters exert a wholesome influence upon boys in building habits of thrift, in rewarding scholarship, and in teaching a proper balance between work and recreational interests. The parent and son banquet is a highly regarded example of the latter.

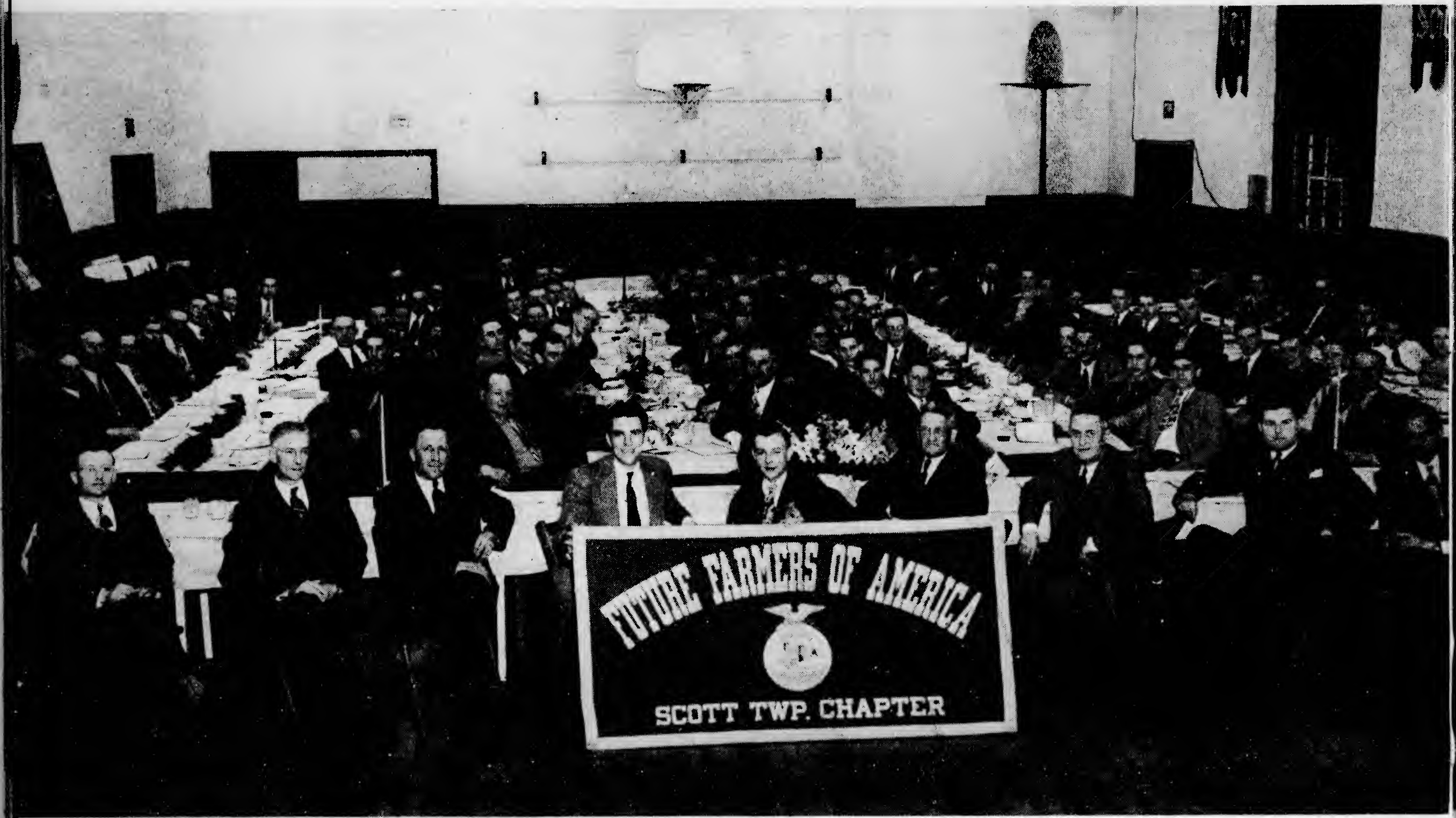
The ultimate goal for each boy is that he may more readily become a leader in the established agricultural, religious, civic, and social organizations in his community. A notable characteristic of the best local chapters is that every individual member has a part in as many activities as possible, chosen with regard to his needs, interests, and abilities.

A good chapter has interested members and capable officers and leaders. It has a challenging program of work backed by adequate provision for financing the activities. Well-distributed responsibility is shared by all members. The chapter has all necessary equipment and maintains a good system of records. A detailed knowledge of the F.F.A. is possessed by every member.

Ideals and Aims of F.F.A.

The ideals of the Future Farmers of America are clearly stated in the Creed and in the Aims and Purposes as outlined in the Official Manual. In addition to the primary aim of development of agricultural leadership, cooperation, and citizenship, the democratically planned and conducted activities of the F.F.A. Chapter have demonstrated their value in:

1. Encouraging members in the development of individual farming programs and establishment in farming
2. Creating more interest in the intelligent choice of farming occupations
3. Strengthening the confidence of farm boys and young men in themselves and in their work
4. Encouraging members to improve the farm home and its surroundings



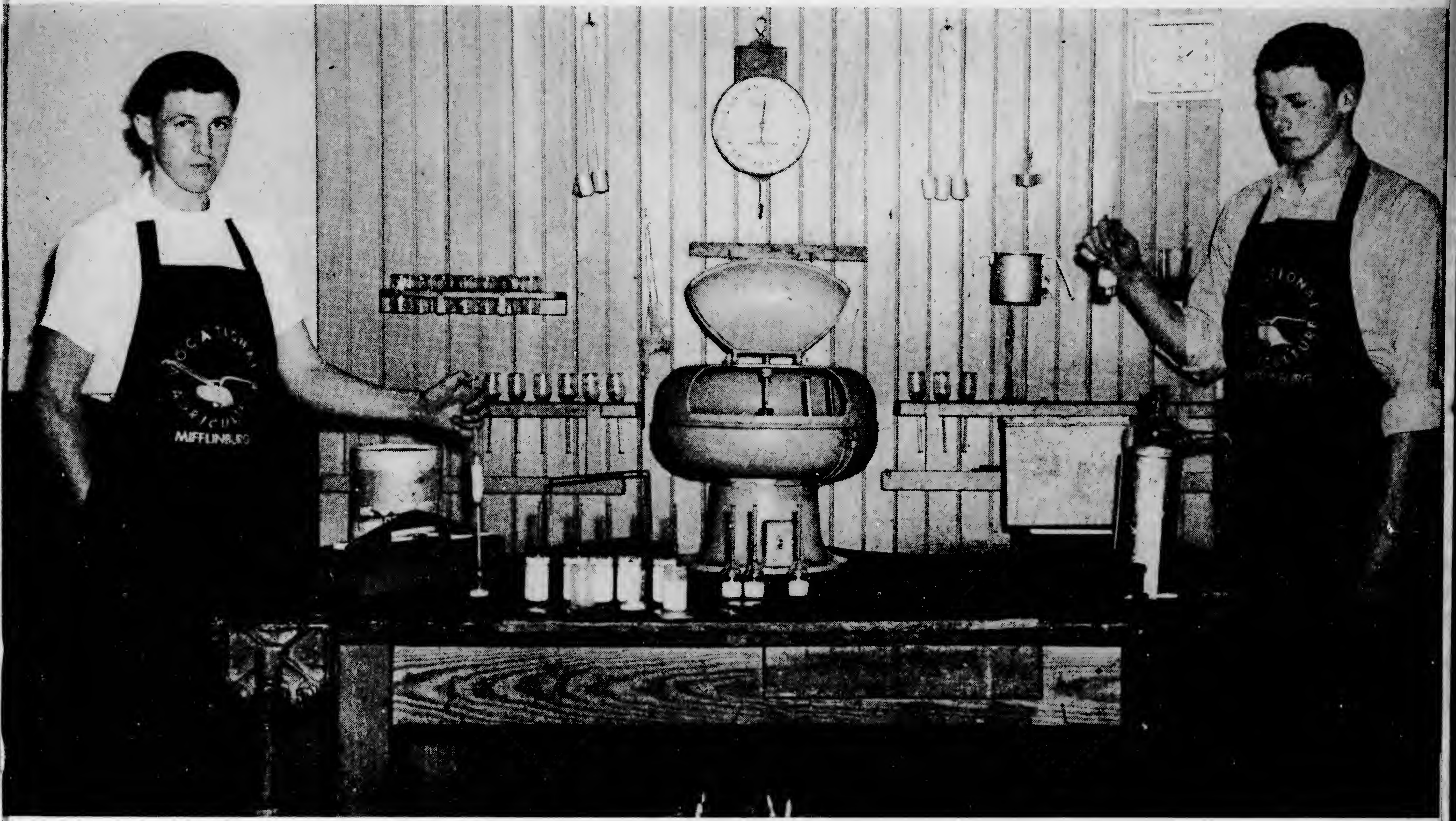
Scott Township High School, Lackawanna County. Annual Father and Son F.F.A. Banquet.

5. Securing participation in worthy undertakings for the improvement of agriculture
6. Developing character, training for useful citizenship, and fostering patriotism
7. Securing participation in cooperative efforts
8. Encouraging the practice of thrift
9. Encouraging improvement in scholarship
10. Providing and encouraging the development of organized rural recreational activities
11. Creating and nurturing a love of country life.

The purposes of the Future Farmers of America may be summarized in the statement which is repeated in unison by the members during the opening ceremony of a chapter meeting. The president asks, "Future Farmers, why are we here?"

The boys say: "To practice brotherhood, honor rural opportunities and responsibilities, and develop those qualities of leadership which a Future Farmer should possess."

The methods employed are best characterized by the F.F.A. motto—*Learning to do; doing to learn; earning to live; living to serve.*



Milk Testing Unit in the classroom at Mifflinburg, Union County.

III

Facilities for Departments of Vocational Agriculture

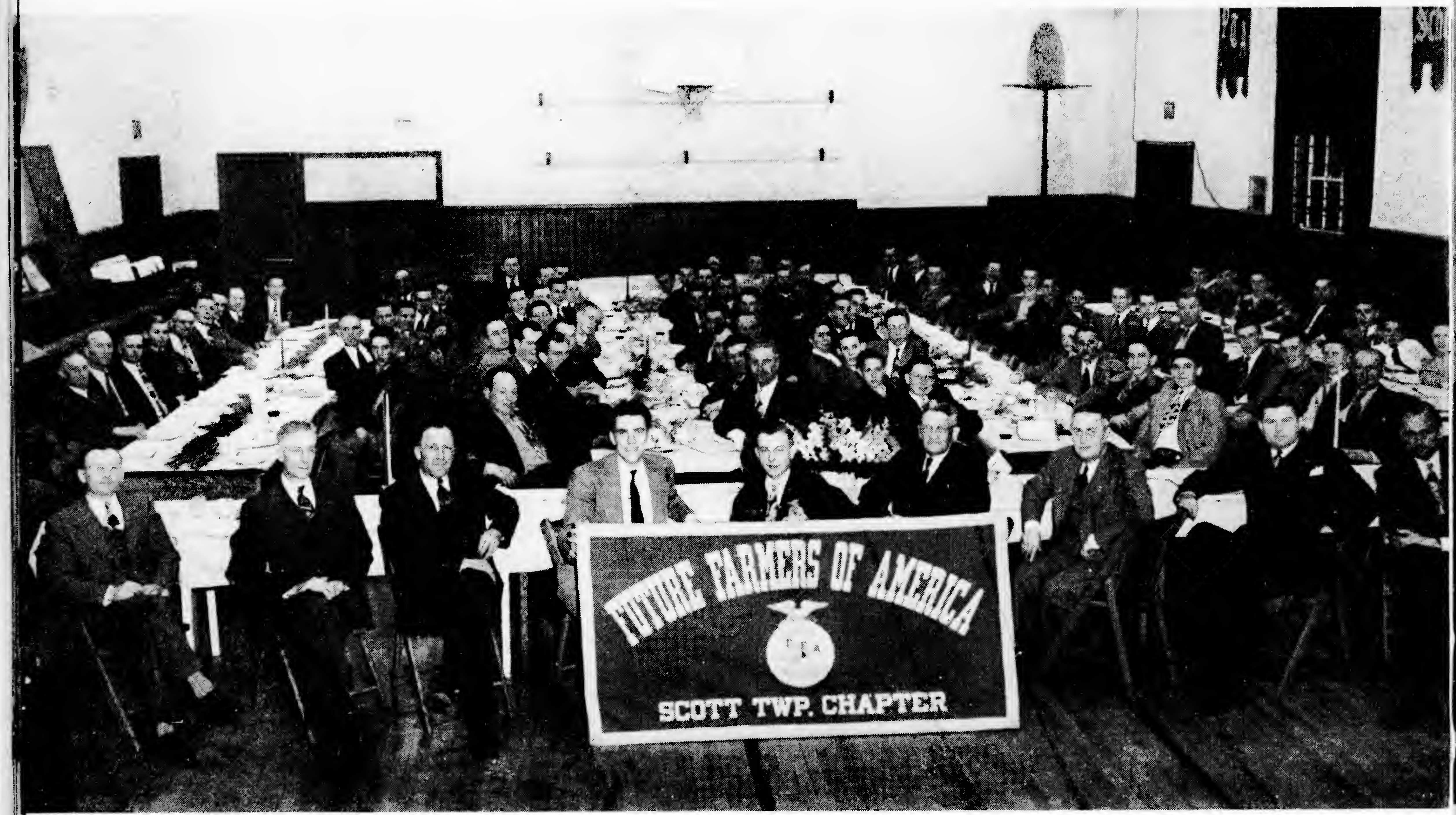
THE AMOUNT of space necessary for the operation of a department of vocational agriculture varies with the enrollment.

The vocational agriculture course requires both a class-laboratory room and a shop. A combination classroom and shop should be avoided. A separate laboratory apart from the classroom or shop is desirable but not required.

CLASSROOM AND CLASSROOM EQUIPMENT

The classroom should be large enough to accommodate from 1¼ to 1½ units, that is, from 20 to 36 students. The size of the ideal class for vocational agriculture is approximately 15 students.

The classroom should have a hardwood floor. The window area should be at least 1/5 the floor area. The room should be equipped with adequate artificial lights.



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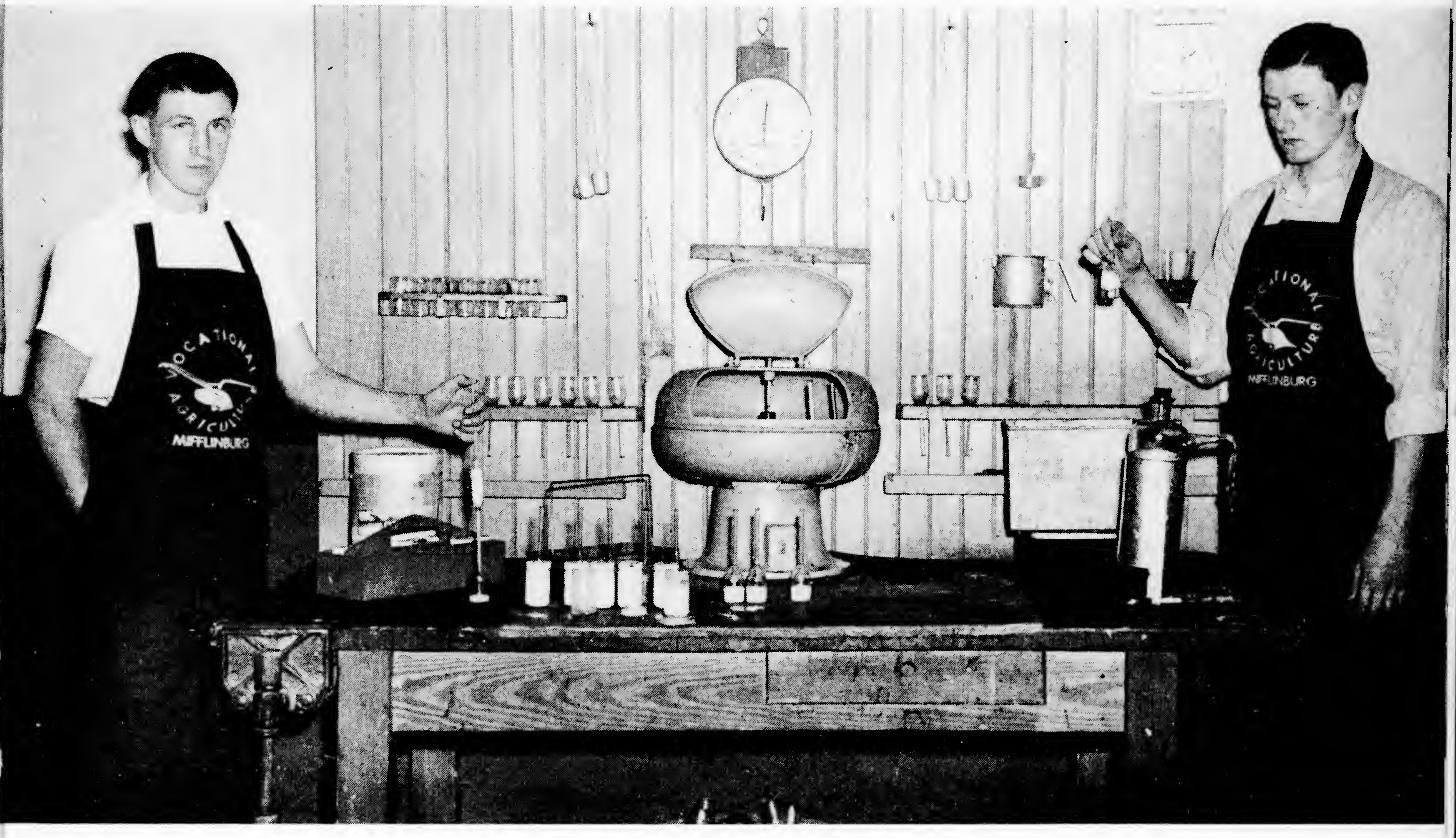

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The classroom should have a hardwood floor. The window area should be at least 1/5 the floor area. The room should be equipped with adequate artificial lights.

The following is suggested equipment which should be provided for this room:

1. *Blackboard.*

The blackboard should be of slate or slate equivalent and located at the front of the room. It should be 8′ to 10′ long and 4′ high. The bottom of the blackboard should be 3′ above the floor.

2. *Cork Bulletin Board.*

A cork bulletin board should be located at a prominent place on the wall of the room. This board should be approximately 4′ x 4′ and the bottom of the board should be 3′ above the floor.

3. *Storage Cupboards and Shelves.*

Ample space in cupboards and shelves should be provided for storage of visual aids and reference materials used in vocational agriculture. These cupboards should be vermin-proof.

4. *Magazine Rack.*

Most teachers of vocational agriculture supplement their agricultural texts with agricultural magazines. Many methods of filing magazines have been used, but the following rack does the job very well.

5. *Sink.*

A sink 30″ x 20″ x 5½″ deep should be located in the classroom. It should be provided with hot and cold running water and a drain. It should be acid proof and installed flush with a counter. Space below the sink can be enclosed and used for storage. The sink might be built in as part of the storage cupboards and counter.

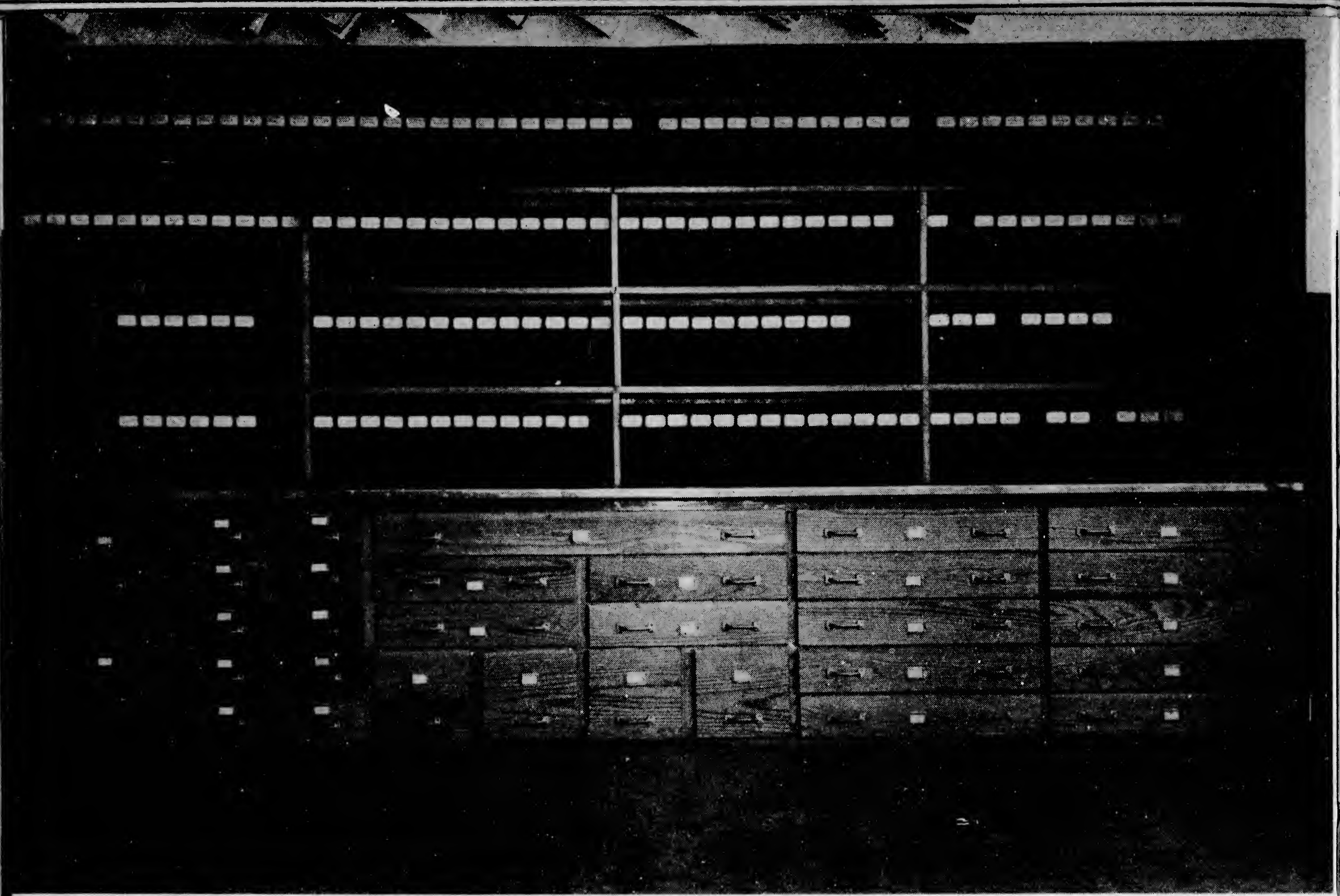
6. *Instructor's Desk.*

The instructor's desk should be of the flat-topped executive type, 3′ x 5′ x 30″ high.

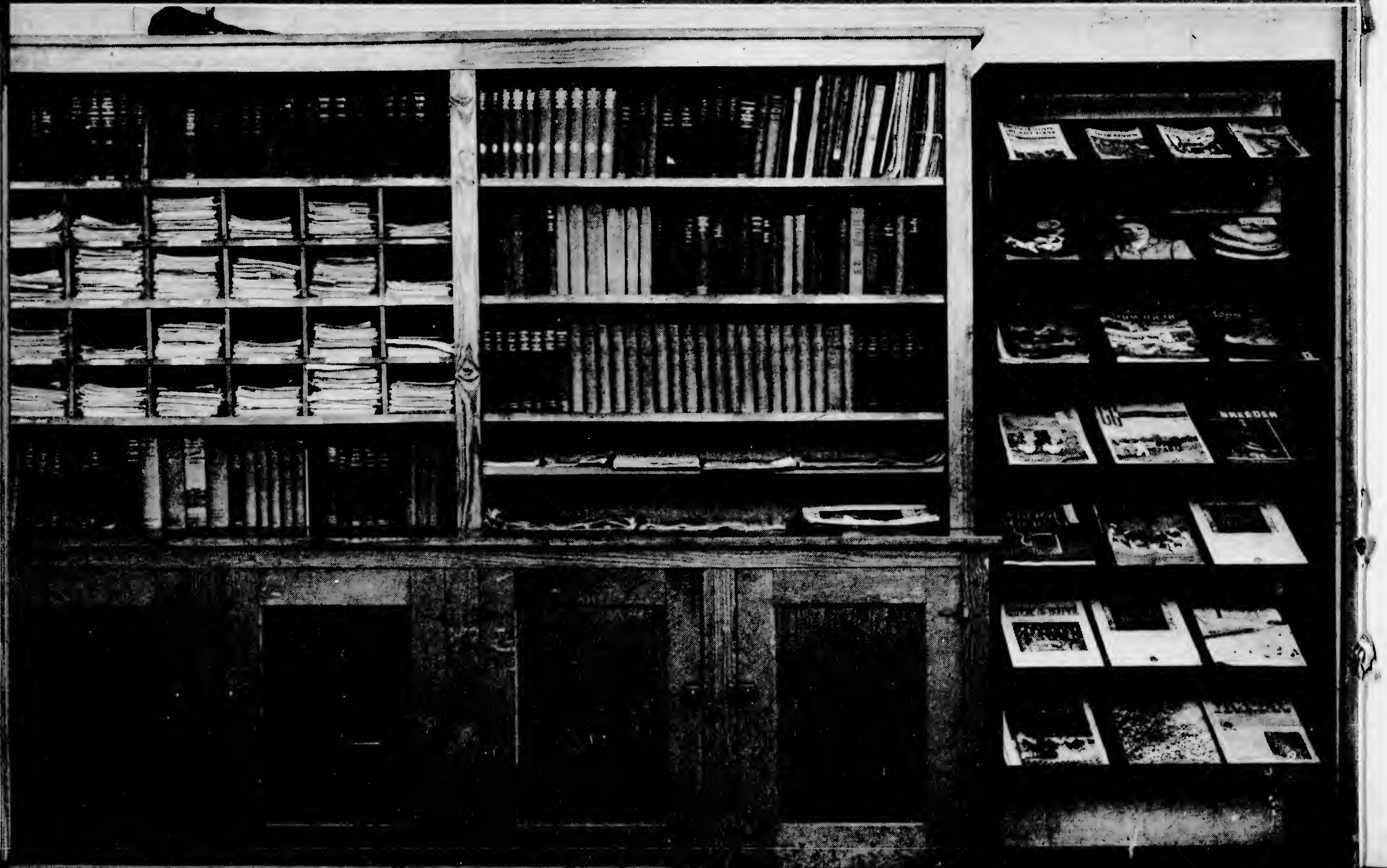
7. *Tables and Chairs for Students.*

It is recommended that tables and chairs be used in the vocational agriculture classroom rather than desks or table-arm chairs.

The tables should be 2′ wide by 5′ to 8′ long and 30″ high and constructed of hardwood. Sturdy construction in these tables is very desirable. Each 5′ table will accommodate two persons. Chairs should be sturdy and made of hardwood. Folding chairs are not recommended for use in the vocational agriculture classroom.



Storage Cupboard in the Vocational Agriculture Classroom at Eastbrook, Lawrence County. The cupboard is 12′ long and 6½′ high. The shelves are used for filing bulletins in 6″ x 9″ bulletin boxes. The lower part of the cupboard consists of drawers about 30″ deep covered by a counter.



Storage Cupboard and Magazine Rack in the East Greenville Vocational Agriculture Department, Montgomery County.

Vocational Agriculture Classroom at Hollidaysburg, Blair County, showing arrangement of student tables.

8. *Electrical Convenience Outlets.*

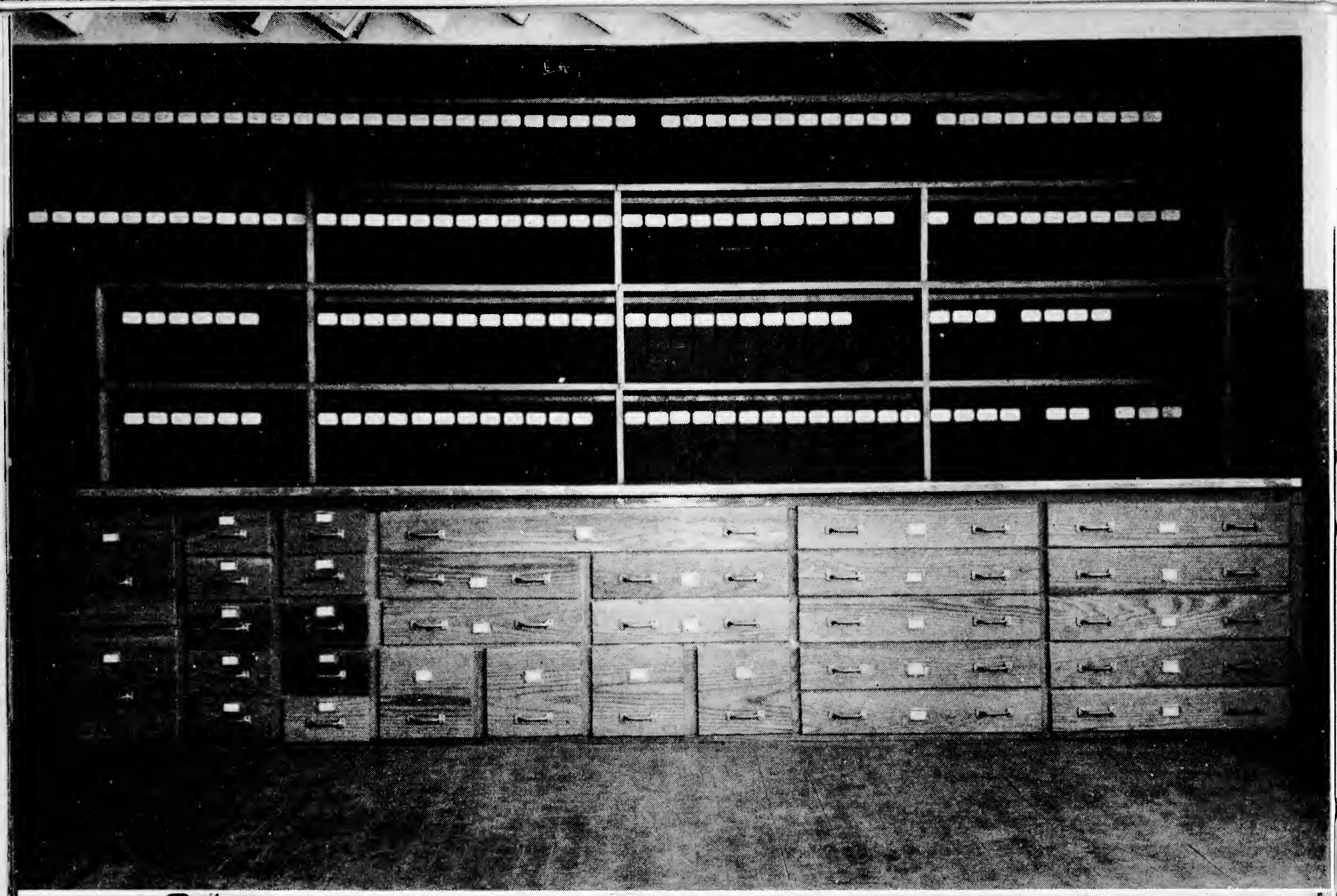
Convenience outlets for 115-volt current should be located on each of the four walls around the classroom. It is especially important that outlets be located at the front and at the rear of the room.

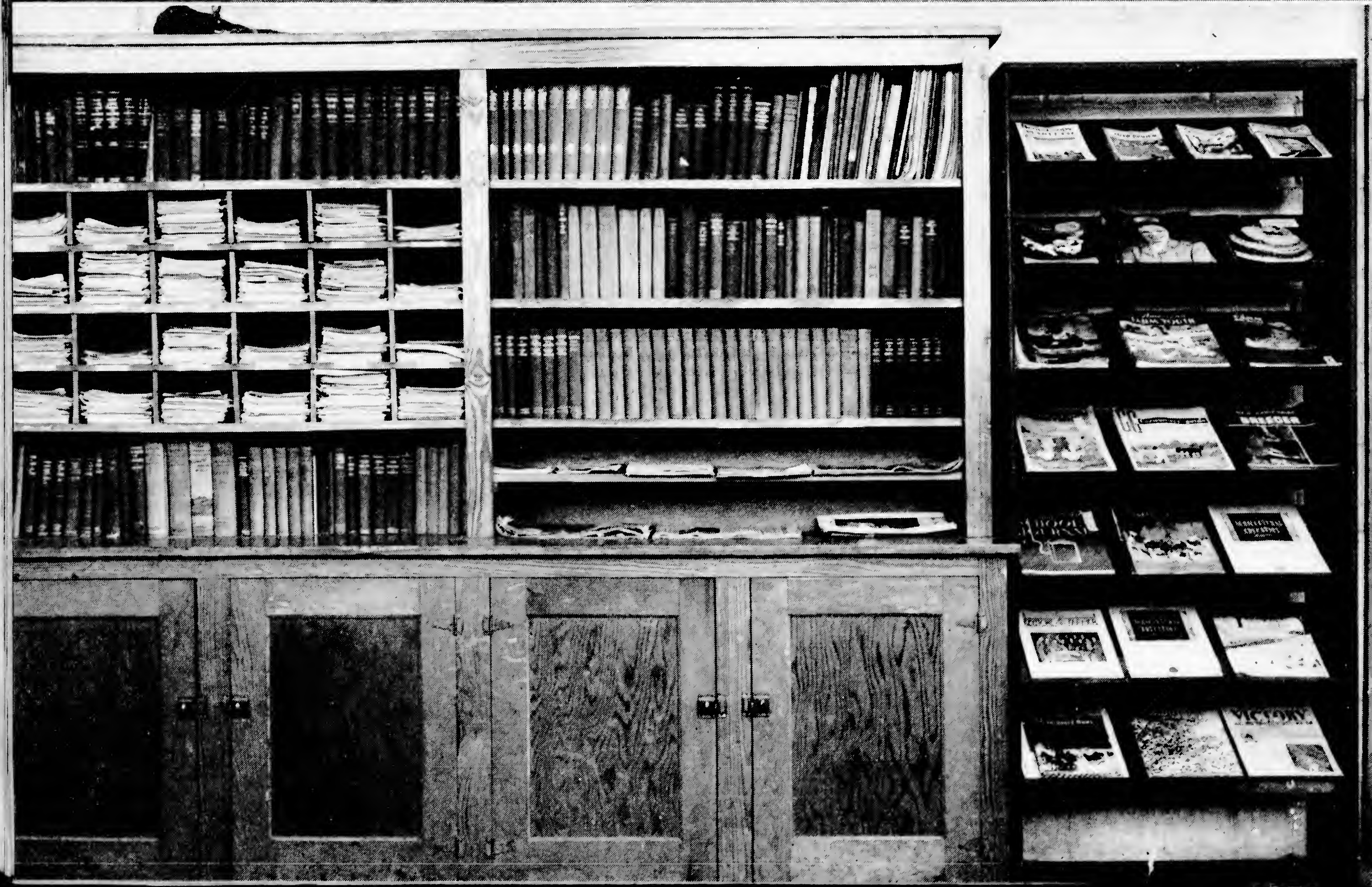
9. *Metal Filing Cabinet.*

It is recommended that a four-drawer metal filing cabinet be conveniently located in the agricultural classroom for easy access by the teacher.

10. *Milk Testing Facilities.*

Milk testing equipment is often used in the vocational agriculture courses since dairying is one of the major agricultural enterprises of Pennsylvania. Because testing milk involves the use of water, acid, and the milk samples—all liquids, it is recommended that one special place in the classroom be equipped to do this job properly. The unit for testing milk should be located near the sink.





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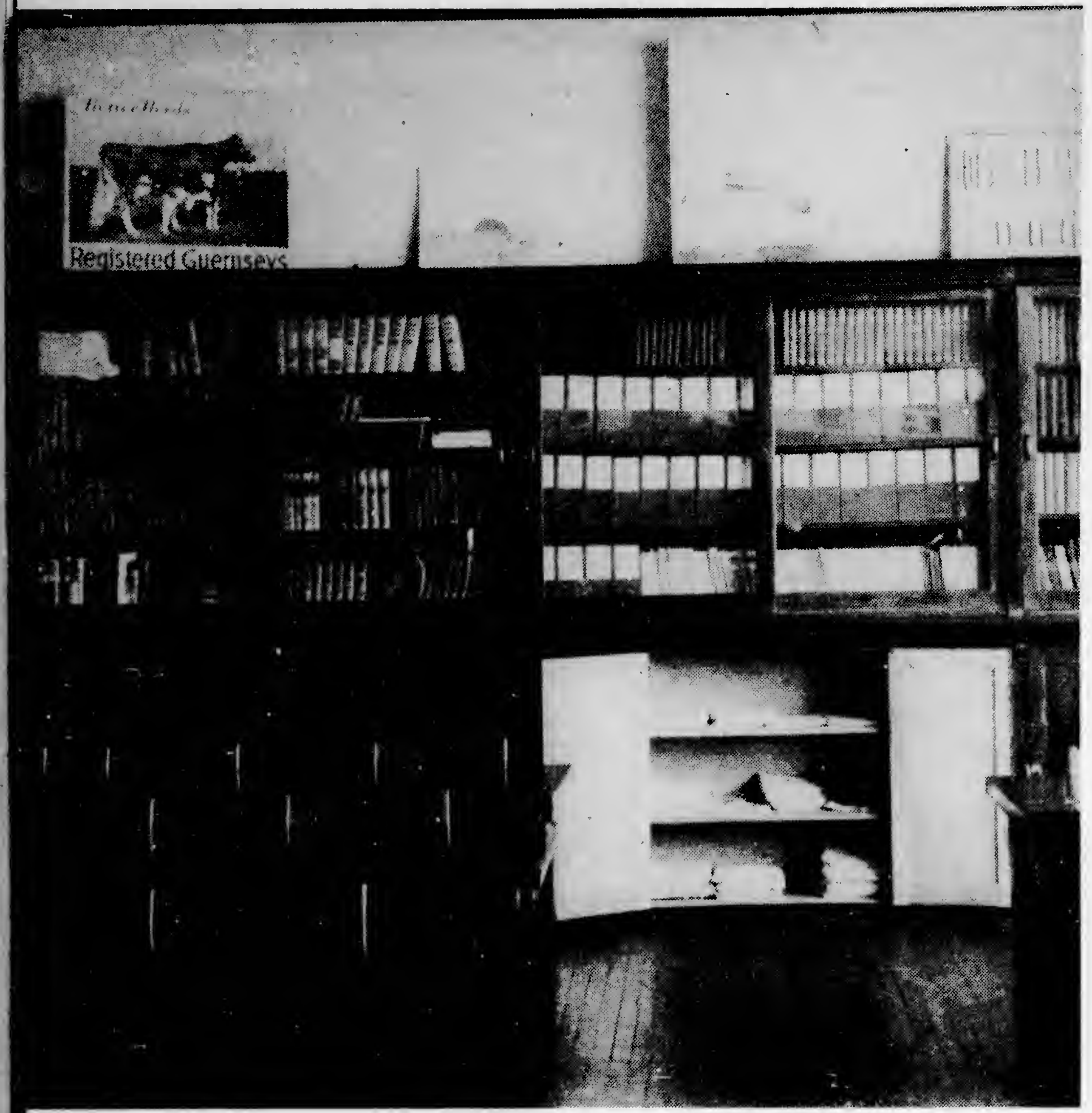


A two-section cabinet at Kutztown High School, Berks County. The cabinet has glass doors above and solid doors below. It extends across the entire back of the classroom. The cupboard is 18′ x 7′. The base of the cabinet is 2′ deep and the top with glass doors 1′ deep so that a narrow shelf is provided in front of the sliding glass doors. The bottom of the cabinet contains equipment and classroom material while the glassed-in part has books and bulletins.

THE FARM MECHANICS SHOP

The farm mechanics shop should have a minimum floor area of 1800 square feet. It should be provided with a door 12′ long by 10′ high which will allow large farm machinery to be brought into the shop and the taking out of the shop portable farm building and equipment constructed by the students for their supervised farming programs. For a floor plan see opposite page.

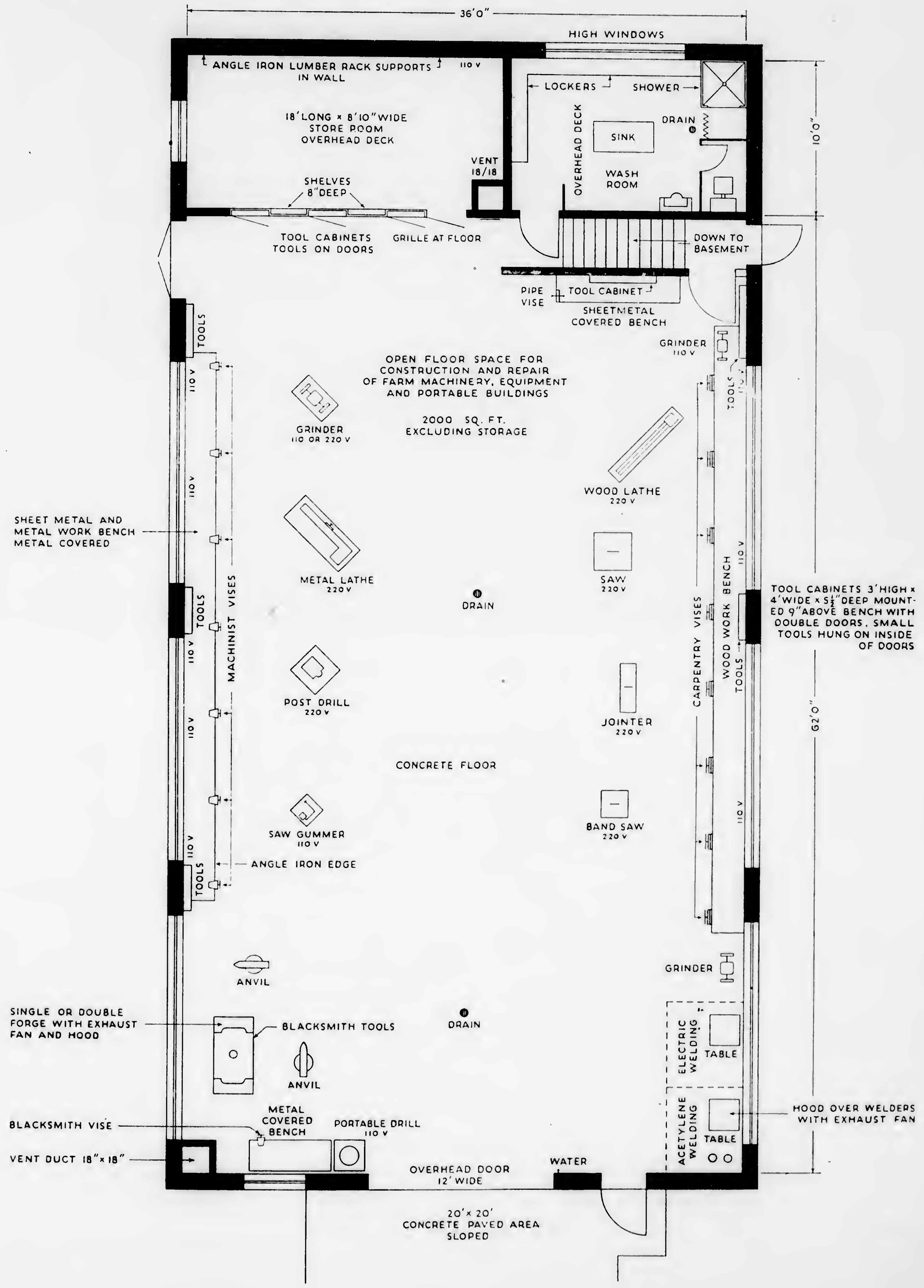
Cochranton High School, Crawford County. A vertical visible magazine rack with concealed sections for storage of past issues. This magazine rack is 6′ x 6′ in size, 12″ deep at the top and 24″ at the bottom and constructed over a model recommended by the Department of Agricultural Education of The Pennsylvania State College. It provides a great deal of visible space for display of magazines and the pupil can at a glance locate the magazine which he wants.

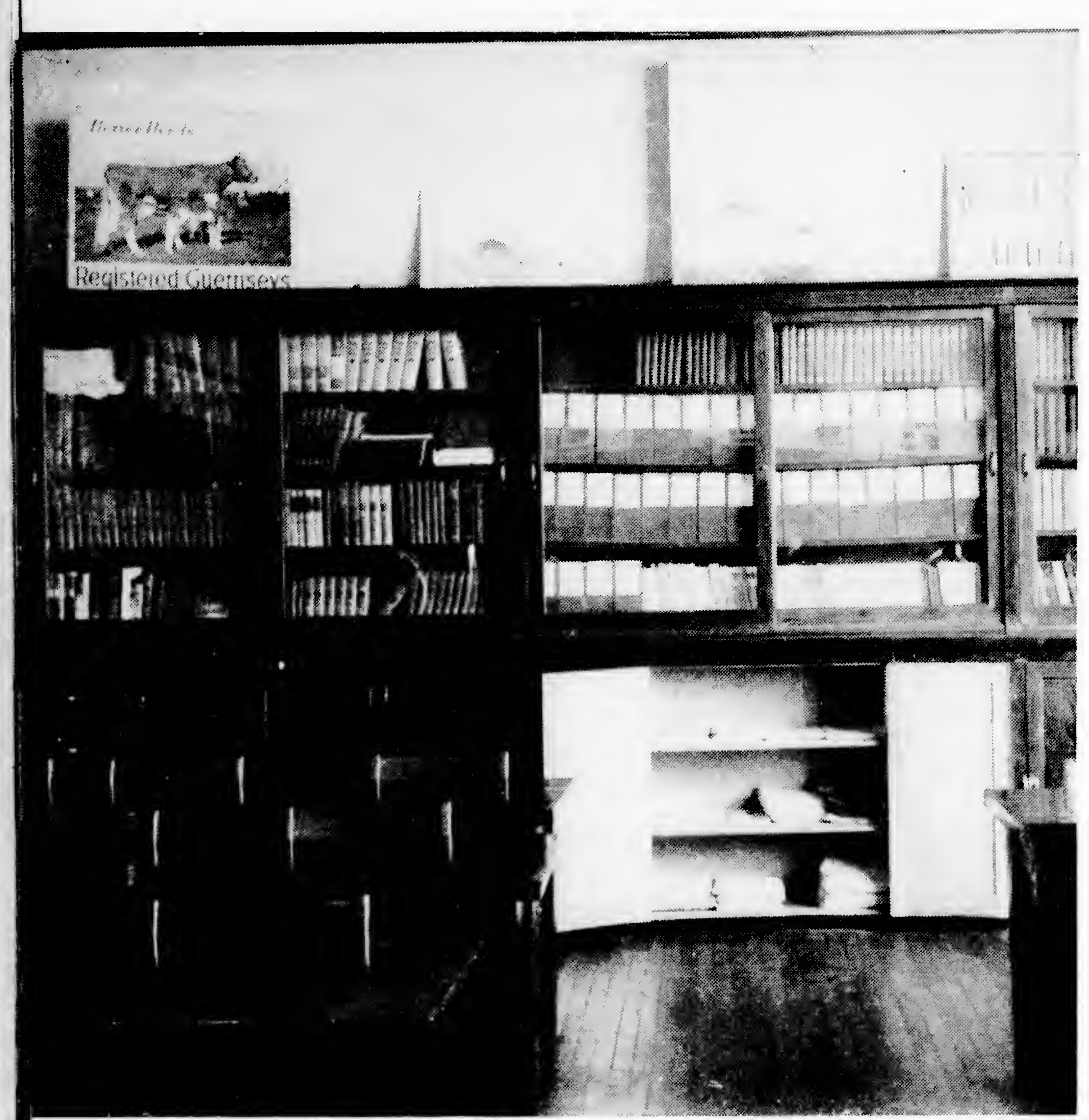
FLOOR PLAN

SCALE $\frac{1}{4}$″ = 1′0″

SUGGESTED FARM SHOP PLAN FOR
VOCATIONAL AGRICULTURE DEPARTMENTS

DEVELOPED COOPERATIVELY BY
THE PENNSYLVANIA STATE COLLEGE
AND
THE STATE DEPARTMENT OF PUBLIC INSTRUCTION





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FLOOR PLAN
SCALE ¼″ = 1′0″

SUGGESTED FARM SHOP PLAN FOR
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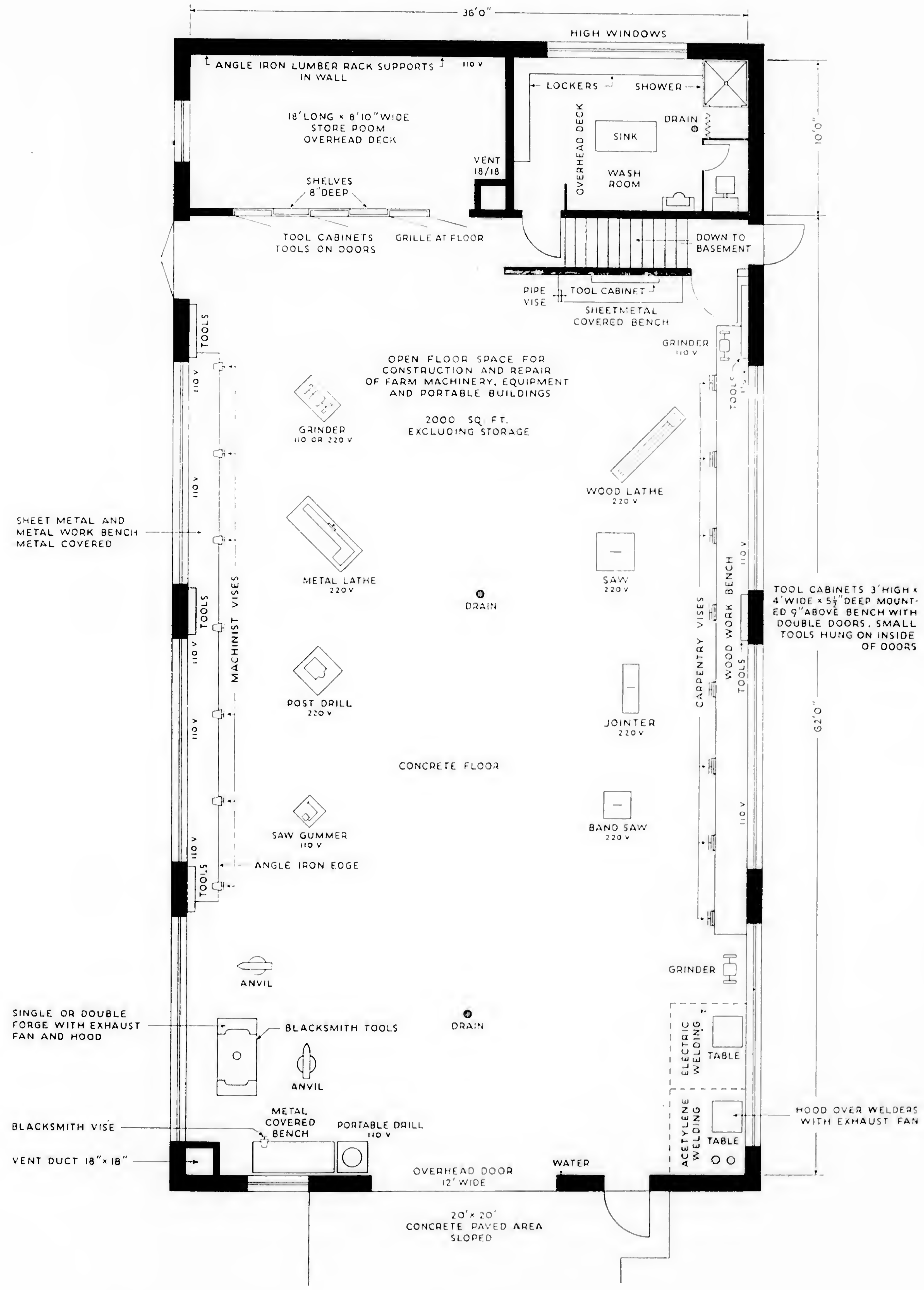
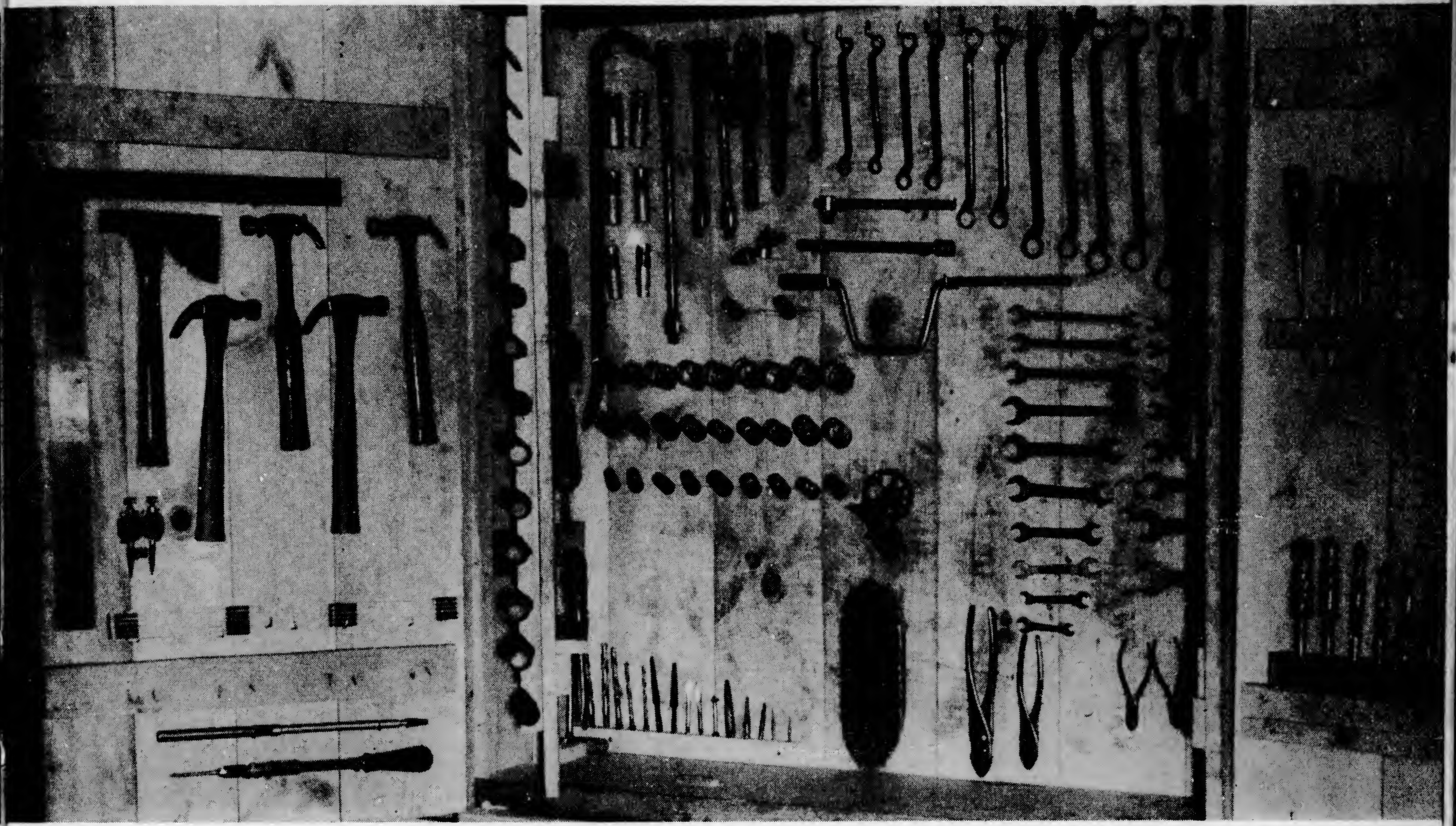


A farm mechanics class at Middleburg High School, Snyder County, showing a diversification of jobs, typical of the farm mechanics course

A SUGGESTED LIST OF TOOLS AND EQUIPMENT FOR A FARM MECHANICS SHOP

The number opposite each tool or piece of equipment is the minimum recommended. Should a single farm mechanics class of a department exceed 15 boys, some items of equipment should be increased over the number recommended in this list. Such items are marked with an asterisk (*).

	Quantity
Ammeter, AC, 20 amps.	1
Anvils	
Blacksmith's, with tool steel facing, 150 or 200 lbs.	1
Guard and sickle	1
Bars	
Crow and tamping, combination—6 ft., homemade	2
Pinch, 3 ft. and 4 ft. lengths	1 each
Wrecking	2
Bevel, sliding T	2
Bits	
Auger, ¼″ to 1¼″ by 16ths	1 set
Countersink	2
Drill, twist, Hi-speed, ½″ or ⅝″, round shank, ½″, 9/16″, ⅝″, 11/16″, ¾″	1 each
Drill, twist, carbon, straight shank, 1/16″ to ½″ by 64ths	1 set
Drill, twist, ½″—⅝″—¾″—⅞″—1″, half-inch shank	1 set
Electrician's, ⅝″—¾″	1 each



Tool cupboard at Newtown, Bucks County. Suitable for storing hand tools used in farm mechanics.

	Quantity
Expansive, ⅞″ to 3″	1
Screw driver, 5/16″—⅜″—½″	1 each
Brace, ratchet bit, 10″ sweep	2*
Brush, wire wheel—6″	1
Calipers, inside and outside, 8″	1 each
Cans	
Gasoline, safety—size optional	1
Oiler, squirt—assorted sizes	3
Chisels	
Cold, ⅜″—½″—¾″—1″	2 each
Cold, blacksmith's, handled, width at eye 1½″	1
Hot, blacksmith's, handled, width at eye 1½″	1
Wood, ¼″—½″—¾″—1″—1¼″	1 set*
Clamps	
Bar, 4′—6′	2
"C", 4″—6″—8″	1 pr. each
Clipper, bolt—30″ length	1
Coppers, soldering, 1½—3 lbs.	1 pr. each
Electric, heavy duty	1
Cutter	
Glass	2
Pipe—capacity ⅛″ to 2″	1

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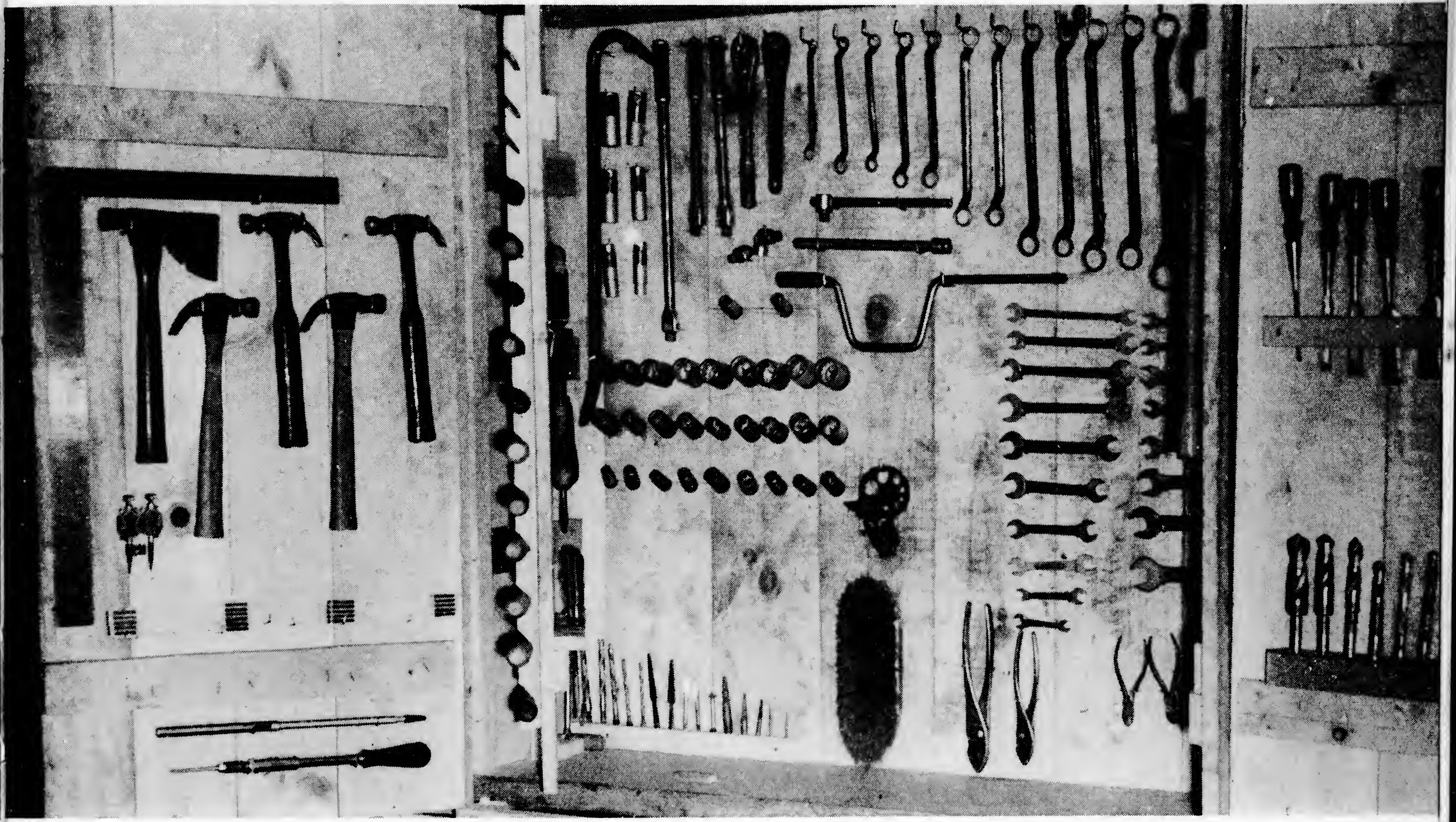

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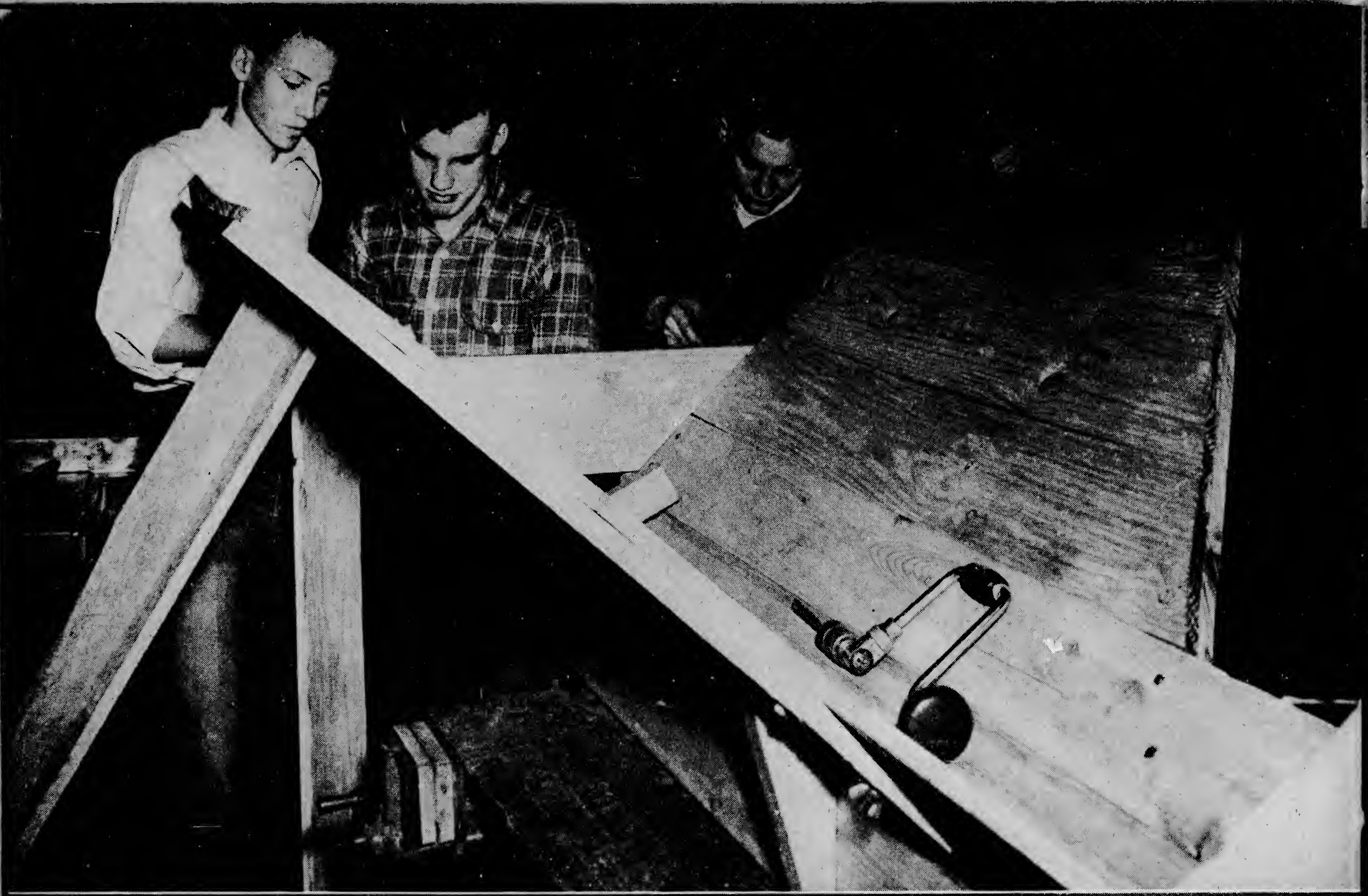
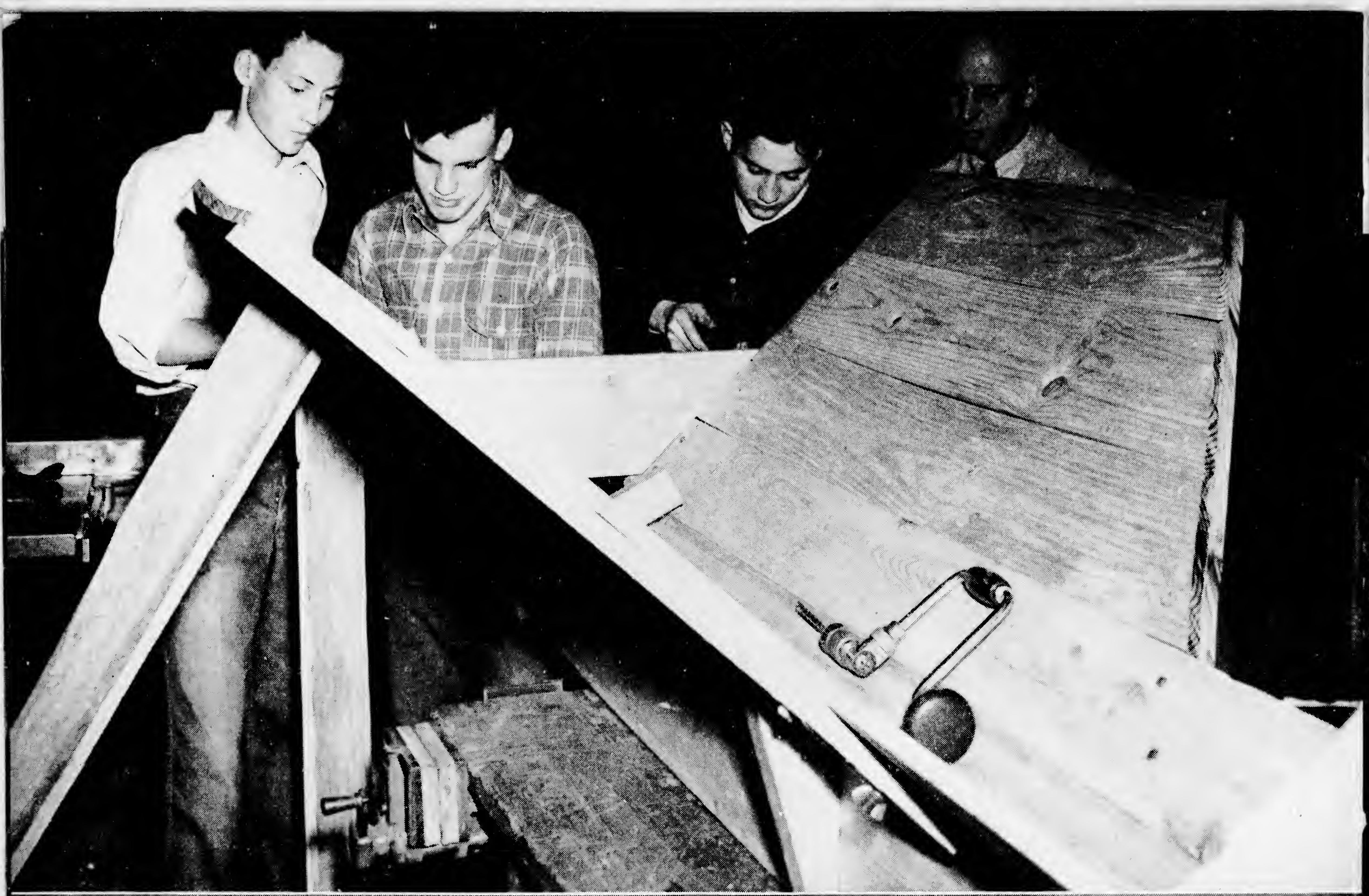


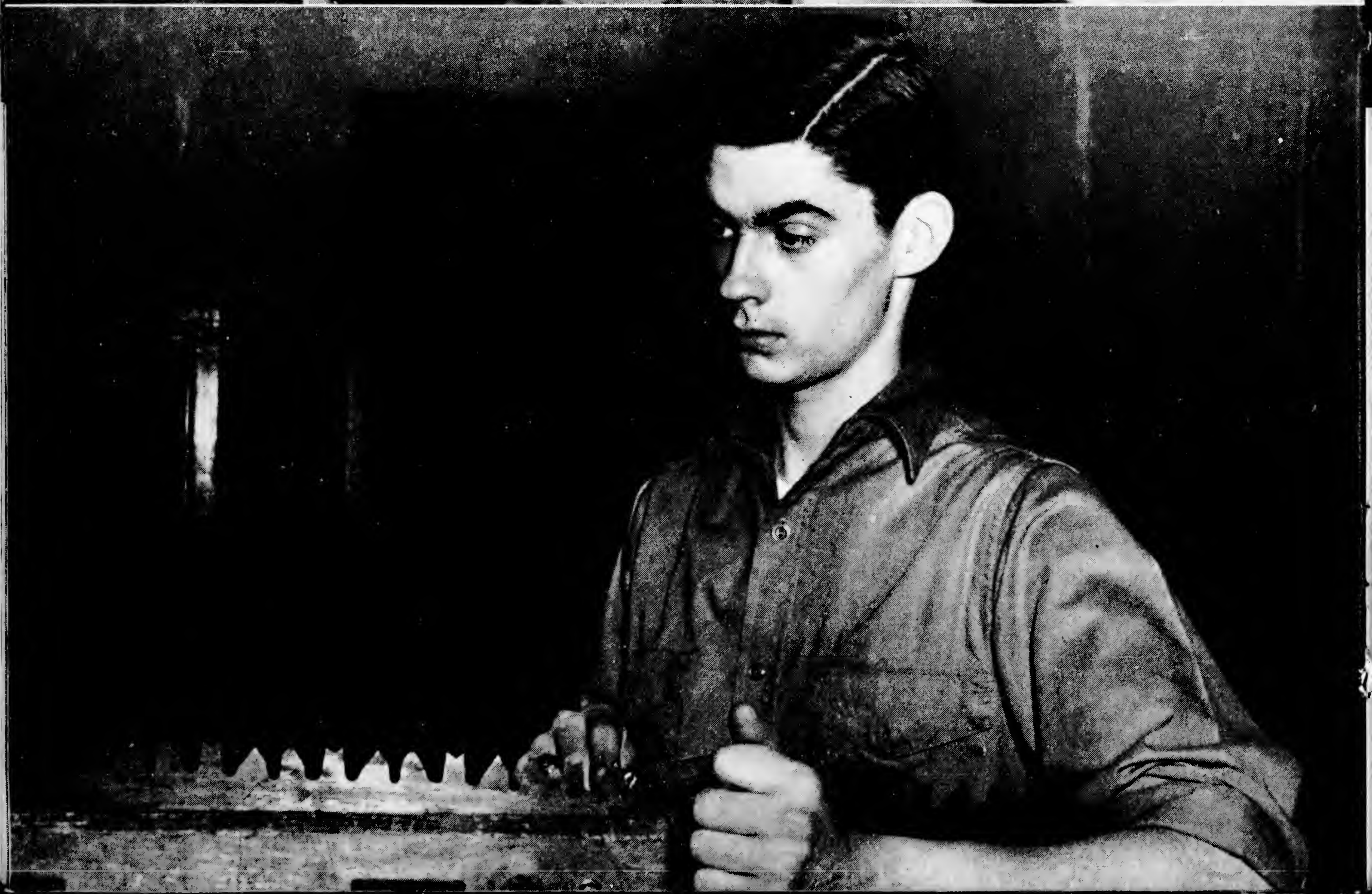
Claysville High School, Washington County. F.F.A. boys demonstrate electric welding at the Pennsylvania Farm Show.

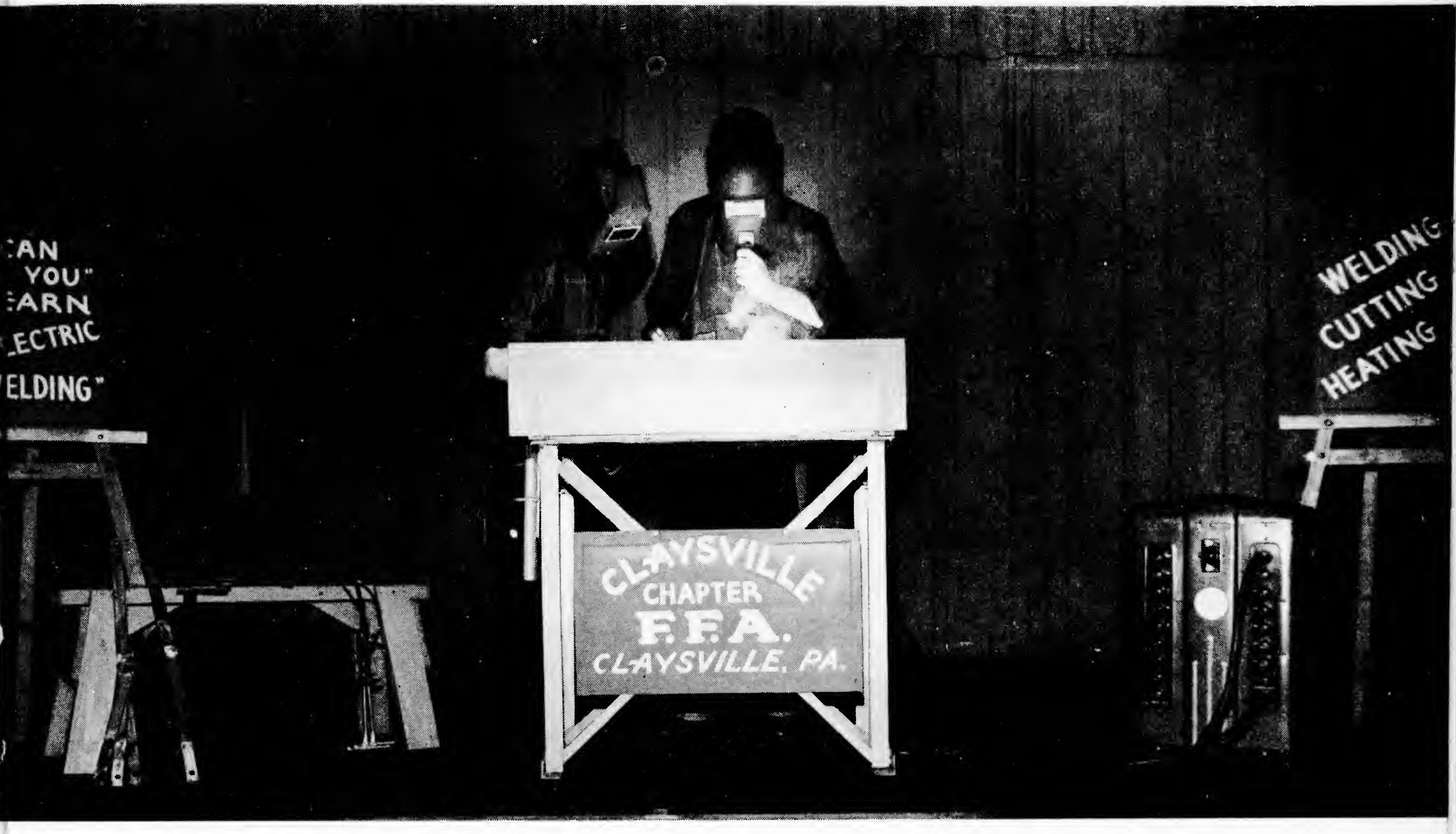
	Quantity
Die stock and dies, pipe threading, ratchet, pipe capacity ⅛″ to ¾″	1
Die stock and dies, pipe threading, ratchet, adjustable, with receding dies—1″ to 2″ capacity	1
Dividers, wing 8″ or 10″	2
Dresser, emery wheel	2
Drills	
Hand, capacity ⅜″	1
Drill, star, ⅜″ to ¾″ by eighths	1 set
Drivers	
Phillips, 4″–6″–8″	1 each
Screw, cabinet, 4″–6″–8″	2 each
Screw, offset, 6″	1
Screw, shockproof, 4″–6″	2 each
Screw, short heavy duty, shockproof	1
Spiral ratchet, 15″ to 17″	1
Edger, concrete worker's square corner and round corner	1 each
Extractor, screw, "Ezy-out"	1 set
Flaring tool, tube	1
Forge, 30″ x 36″ x 6″	1

← **Warriors Mark High School, Huntingdon County. The instructor and students building a portable farm elevator.**

Beaver Township High School, Columbia County. Filing a two-man crosscut saw.







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	Quantity
Die stock and dies, pipe threading, ratchet, pipe capacity ⅛″ to ¾″	1
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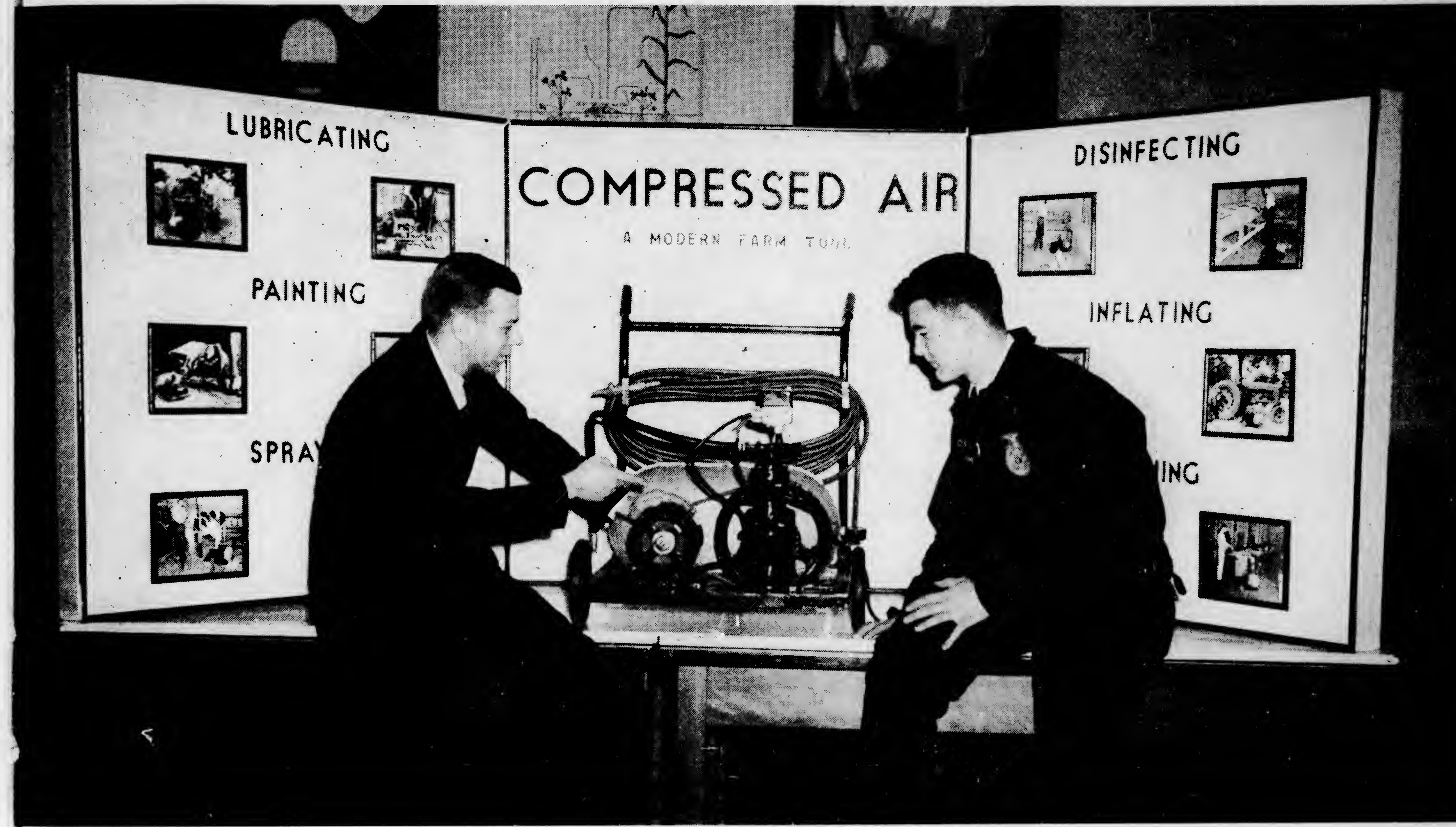
Beaver Township High School, Columbia County. Filing a two-man crosscut saw.

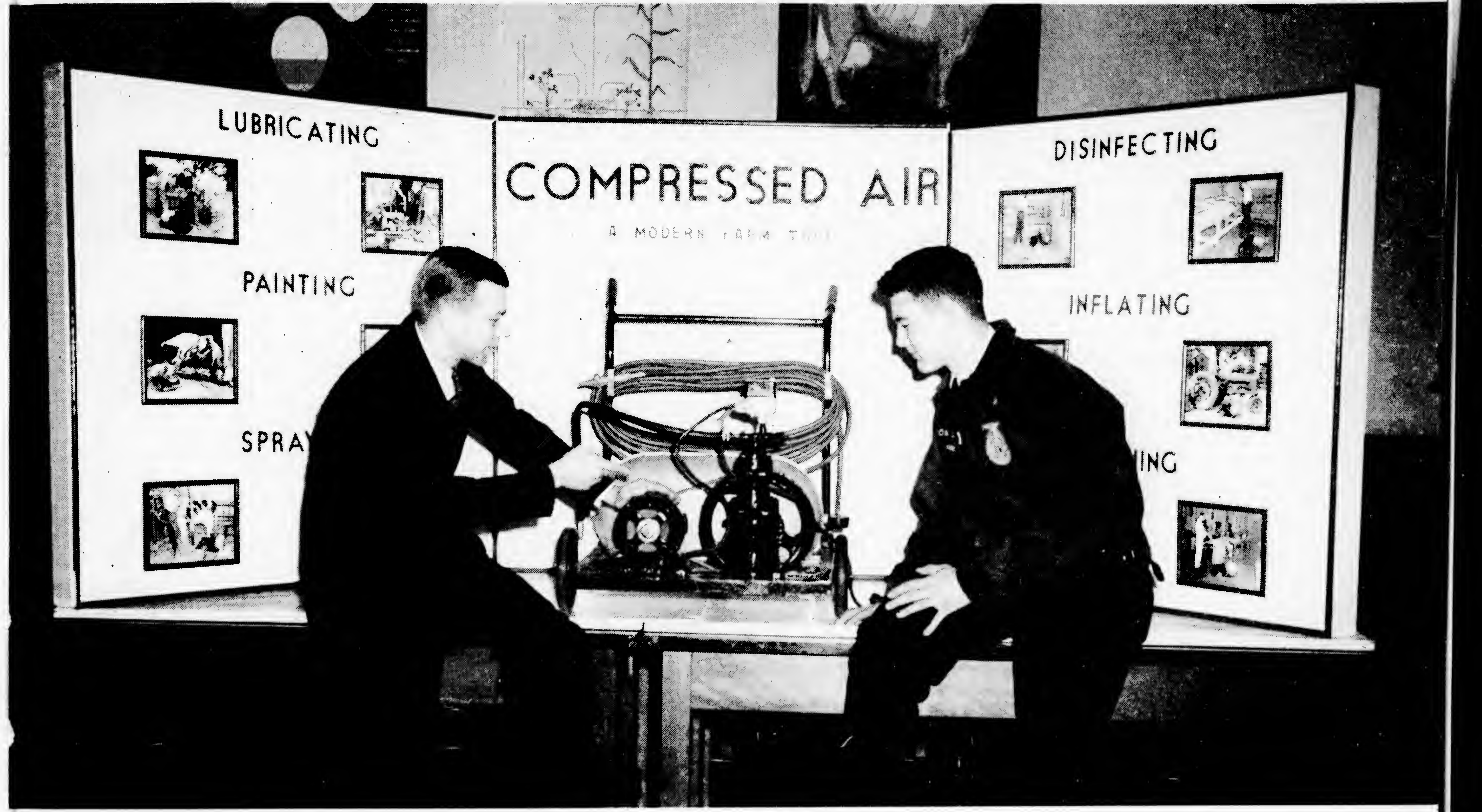
	Quantity
Gauges	
Cylinder (compression)	1
Spark plug	1
Thickness, .001 to .025	1
Tire—air	1
Tire—solution	1
Goggles, grinding	1 pr.
Welding, #5 lens	4 prs.*
Groover	
Concrete worker's	1
Guns	
Air operated grease	1
Alemite, lever type	1
Paint (external mixing type)	1
Haft, awl, assorted sizes	2
Hammers	
Ball pein, 1 lb., 1½ lb., and 2 lb.	2 each
Claw, curved or straight, 16 oz.	8
Cross pein, 2½ lb.	1
Sledge, handled, 8 lb.	1
Soft faced	1
Hardie, blacksmith's, to fit anvil	1
Hatchet	
Broad or bench, 4½″ cutting edge	1
Shingling	1
Helmet, arc welders	1
Hoists	
Chain, differential, capacity ½ to 1 ton	1
Hydrometer (anti-freeze)	1
Indicator, speed	1
Jack, automotive, hydraulic, capacity 2 to 3 tons	1
Jointer, handsaw	1
Knives	
Draw—10″	1
Putty	4*
Sloyd (electrical)	3
Ladle, molting, bowl diameter, 2½″—3½″	1 each
Lamp, trailer, 25′ cord	1
Levels	
Farmer's (transit)	1
Carpenter's	1
Line	1
Mallet (wood)	2*
Nippers, end cutting	1
Oil stone, combination, 2″ x 8″	2*
Oiler, hand	2
Planes	
Block, adjustable, 6″	1*
Jack, 14″	6*
Plate, screw, NC and NF, ¼″ to ¾″ by 16ths	1 set each
Pliers	
Combination (slip joint), 8″	2
Diagonal cutting, 8″	1
Electrician's or Lineman's, 8″	4
Long nose, 6″	1
Round nose, 6″	1
Plumb bob	1



Bellefonte High School, Centre County. F.F.A. chapter members preparing a window display used at the county fairs and State farm show.

	Quantity
Pullers	
Gear, heavy duty	1
Gear, small, 0″ to 3″	1
Punches	
Aligning, points 3/16″—¼″—⅜″	1 each
Belt, revolving head, 4 tube or 6 tube	1
Center, machinist's, diameter at top of tapered point ⅛″ and 7/32″	1 each
Leather, hollow, used with hammer, assorted sizes	1 set
Pin, machinist's, ⅛″—5/32″—3/16″—7/32″—9/32″	1 each
Starter, assorted sizes	4
Reamers	
Burring, spiral, pipe end ¼″ to 2″	1
Rivet buster	1
Rules	
Nonfolding, 2′ or 3′ steel	2
Steel tape, 6′	4
Zigzag, 6′, aluminum	4
Saws	
Coping	1
Compass, 12″	1
Crosscut, 8 and 10 point, 26″	2 each*
Crosscut, two-man	1*

	Quantity
Gauges	
Cylinder (compression)	1
Spark plug	1
Thickness, .001 to .025	1
Tire—air	1
Tire—solution	1
Goggles, grinding	1 pr.
Welding, #5 lens	4 prs.*
Groover	
Concrete worker's	1
Guns	
Air operated grease	1
Alemite, lever type	1
Paint (external mixing type)	1
Haft, awl, assorted sizes	2
Hammers	
Ball pein, 1 lb., 1½ lb., and 2 lb.	2 each
Claw, curved or straight, 16 oz.	8
Cross pein, 2½ lb.	1
Sledge, handled, 8 lb.	1
Soft faced	1
Hardie, blacksmith's, to fit anvil	1
Hatchet	
Broad or bench, 4½″ cutting edge	1
Shingling	1
Helmet, arc welders	1
Hoists	
Chain, differential, capacity ½ to 1 ton	1
Hydrometer (anti-freeze)	1
Indicator, speed	1
Jack, automotive, hydraulic, capacity 2 to 3 tons	1
Jointer, handsaw	1
Knives	
Draw—10″	1
Putty	4*
Sloyd (electrical)	3
Ladle, molting, bowl diameter, 2½″—3½″	1 each
Lamp, trailer, 25′ cord	1
Levels	
Farmer's (transit)	1
Carpenter's	1
Line	1
Mallet (wood)	2*
Nippers, end cutting	1
Oil stone, combination, 2″ x 8″	2*
Oiler, hand	2
Planes	
Block, adjustable, 6″	1*
Jack, 14″	6*
Plate, screw, NC and NF, ¼″ to ¾″ by 16ths	1 set each
Pliers	
Combination (slip joint), 8″	2
Diagonal cutting, 8″	1
Electrician's or Lineman's, 8″	4
Long nose, 6″	1
Round nose, 6″	1
Plumb bob	1



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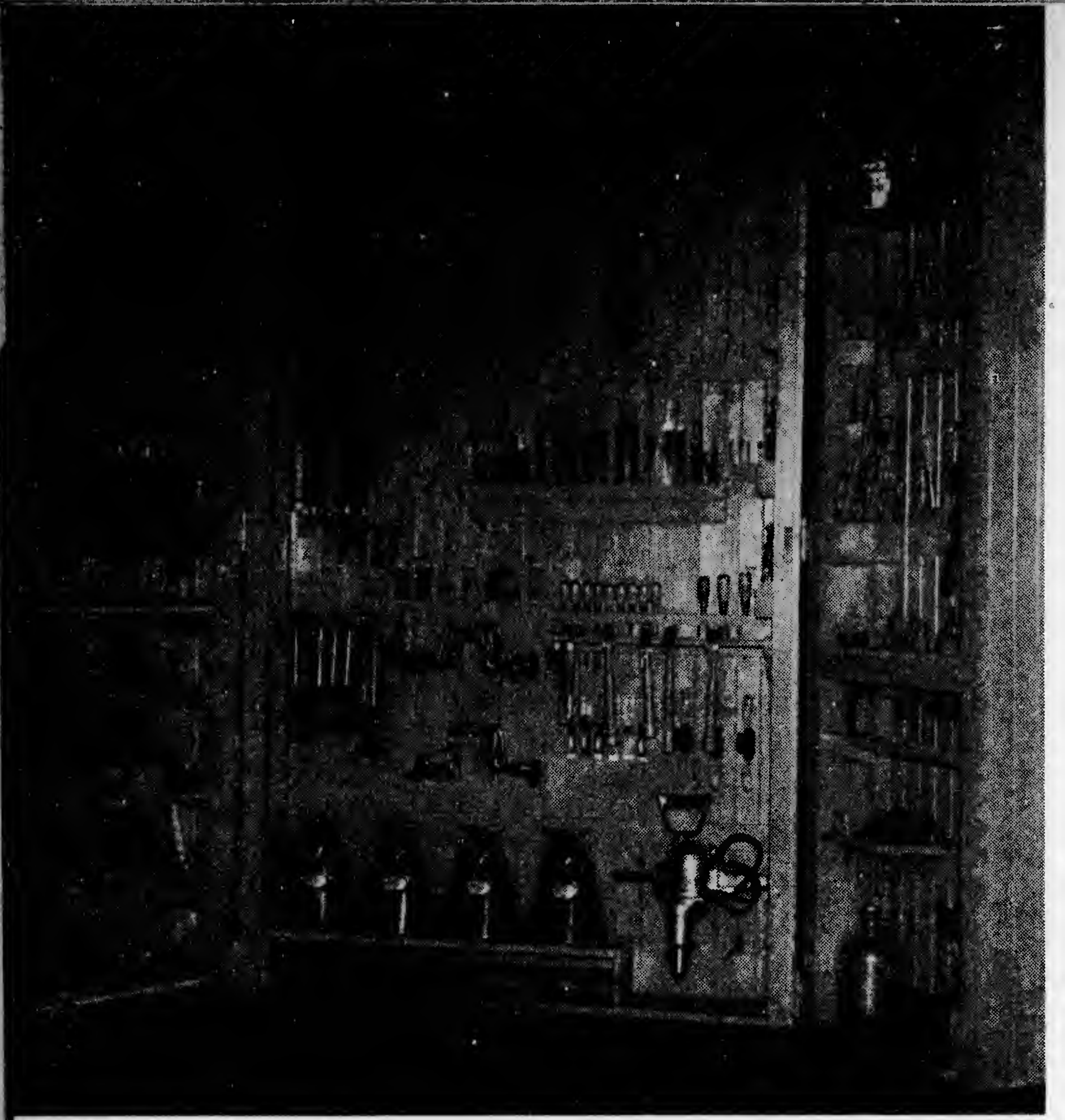
Starter, assorted sizes	4
Reamers	
Burring, spiral, pipe end ¼″ to 2″	1
Rivet buster	1
Rules	
Nonfolding, 2′ or 3′ steel	2
Steel tape, 6′	4
Zigzag, 6′, aluminum	4
Saws	
Coping	1
Compass, 12″	1
Crosscut, 8 and 10 point, 26″	2 each*
Crosscut, two-man	1*



A 4′ wide by 6′ high tool cupboard at Hatfield Joint High School, Montgomery County. This cupboard opens to a width of 8′. This type of tool storage adapts itself to the farm mechanics shop.

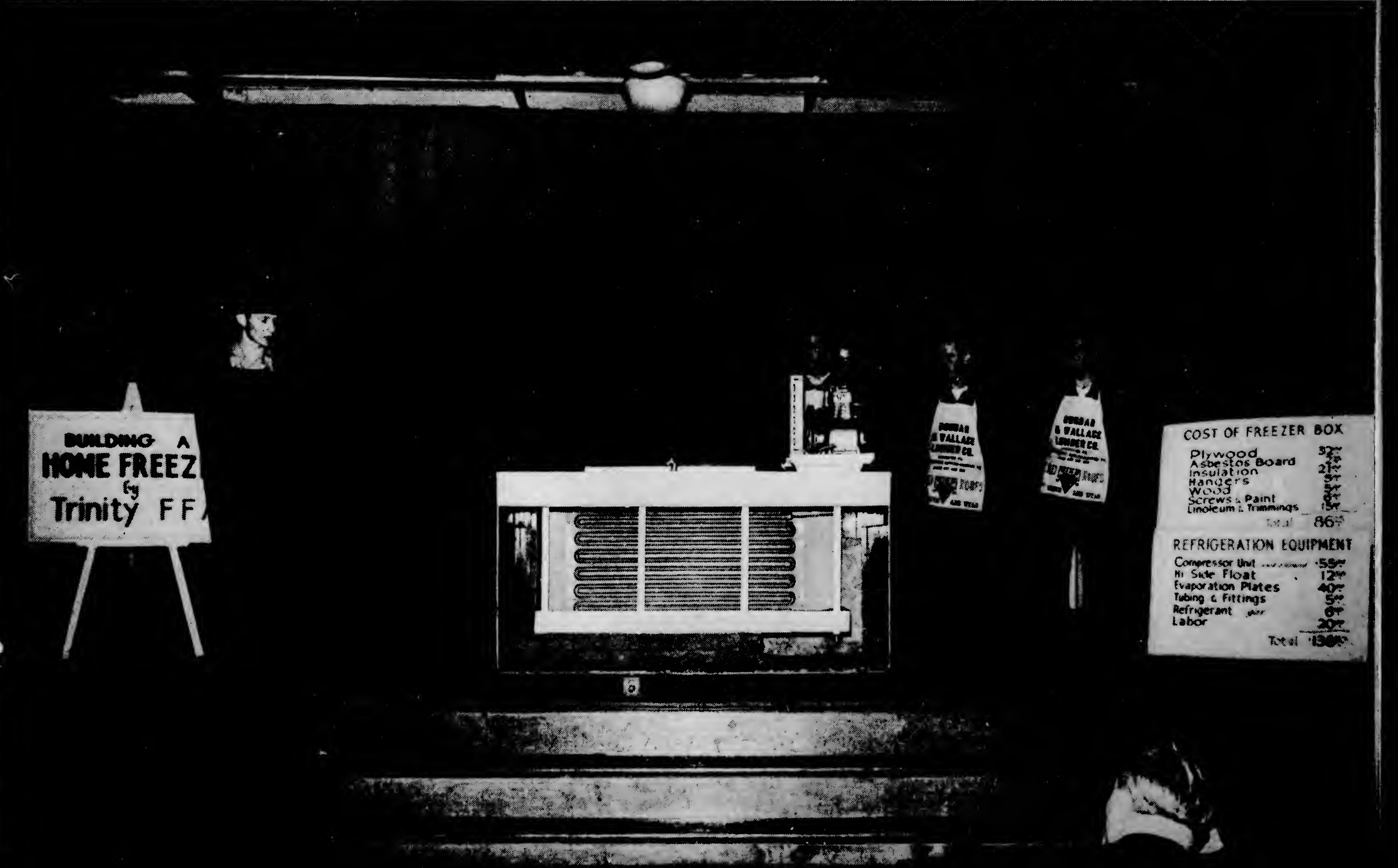
	Quantity
Hack, adjustable frame	2
Rip, 5 or 6 point, 26″	1*
Sets	
Nail, assorted sizes	4
Rivet, 2 sizes	1 each
Saw, hand and circular	1 each
Shield, welder's arc	4*
Shovels	
Round point, long handle	2
Round point, short handle	1
Square point, short handle	1
Snips	
Tinner's combination, 3″ and 3½″	1 each*
Spark plug cleaner and tester	1
Squares	
Combination, 9″	6
Carpenter's steel, 16″ x 24″, 1/16″ markings	3*
Tape, steel, 50′ and 100′	1 each
Timing light, Neon	1
Tongs	
Bolt, blacksmith's, ⅜″—½″—¾″ by 20″ to 24″	1 each*
Straight-lipped, 20″ to 24″	2*
Torch	
Blow, gasoline, capacity one quart	1*
Prest-o-lite (5-in-1)	1
Trowel	
Pointed, 6″, 10″	1 each*
Square, 6″, 10″	1 each
Vise	
Drill press, 6″ opening	1
Machinist's, 4″ jaw	2*
Machinist's, 5″ or 6″ jaw, heavy duty	1*
Pipe, ⅛″ to 3½″	1
Woodworking, rapid acting, 7″ jaw	6*
Wheelbarrow, rubber tire	1
Wrenches	
Adjustable, open end, 6″, 8″, 10″, 12″	2 each
Allen, set	1
Box type, 5/16″ to 1″ by 16ths	1 set
Monkey, 18″ and 21″	1 each
Pipe, 8″—14″—18″—24″	1 each
Socket, half inch, square drive, ⅜″ to 1⅛″ by 32nds, 12 point	1 set
Spark plug, long, thin, and deep, 12 point, ½″ to 1⅛″ by 16ths	1 set

POWER EQUIPMENT AND OTHER MAJOR TOOLS

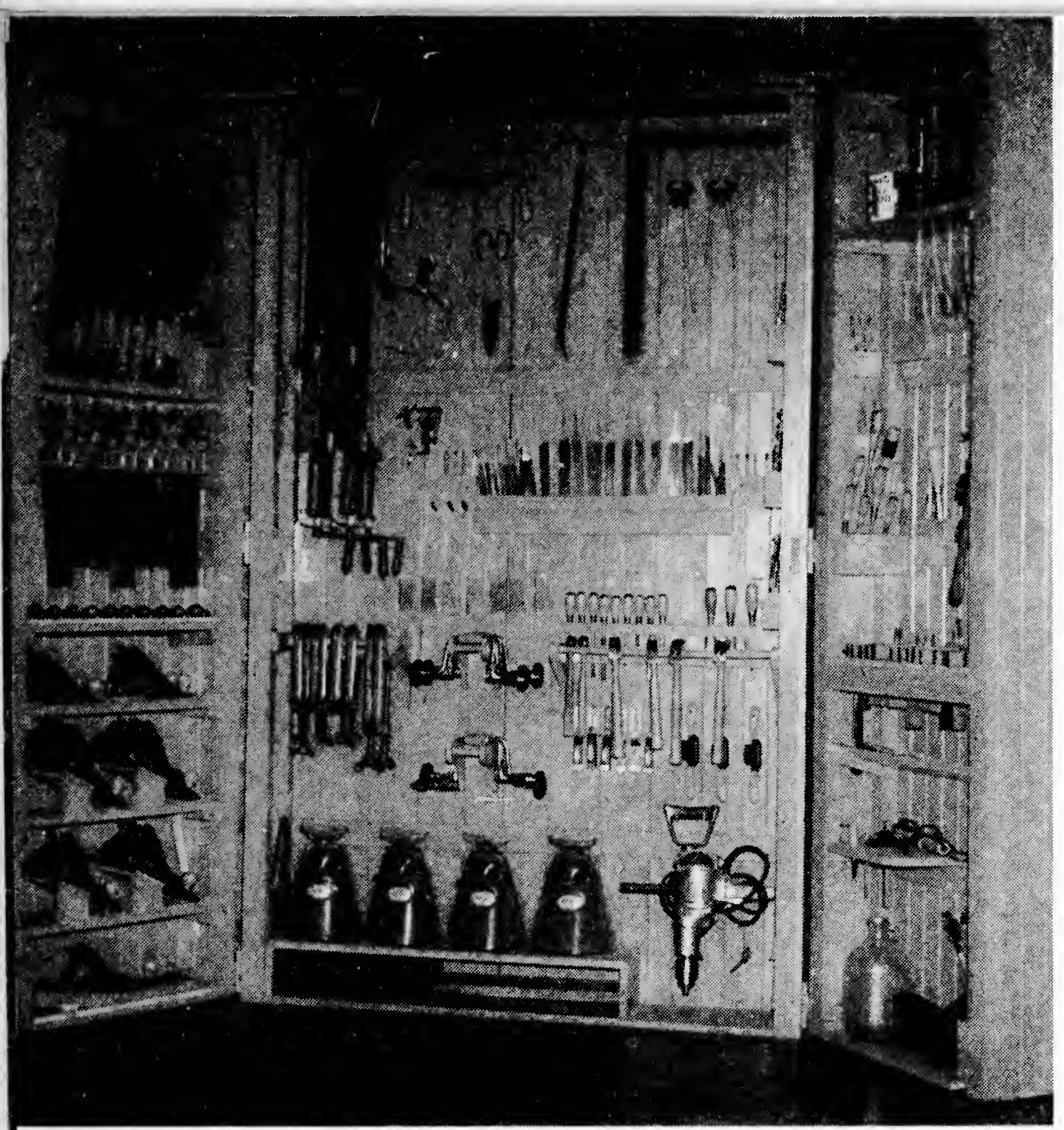
The following items of equipment are listed in the order of their use in the farm mechanics shop. Schools might find it feasible to secure these items in the order listed.

Name	*Description*	*Quantity*
Bench Grinder	7″, 3450 R.P.M.	1
Bench Grinder	10″, 1750 R.P.M.	1
Drill, Electric, Hand	½″ and ⅝″	1 each
Drill Stand	for ⅝″	1
Saw	Tilting Arbor, 10″	1
Jointer	6″	1
Drill Press	Floor Model, slow speed	1
Electric Welder	180 amp. A.C.	1
Oxyacetylene Welder	Complete with Cutting attachment	1
Air Compressor	1 H. P.	1
Band Saw	16″	1
Portable Electric Handsaw		1
Portable Grinder		1

Lebanon County. F.F.A. Dairy Calf Exhibit at South Lebanon Community Fair.



Trinity High School, Washington County. Members of the Trinity Chapter demonstrate the advantages of a home-built freezer for storing food. ➳



A 4′ wide by 6′ high tool cupboard at Hatfield Joint High School, Montgomery County. This cupboard opens to a width of 8′. This type of tool storage adapts itself to the farm mechanics shop.

	Quantity
Hack, adjustable frame	2
Rip, 5 or 6 point, 26″	1*
Sets	
Nail, assorted sizes	4
Rivet, 2 sizes	1 each
Saw, hand and circular	1 each
Shield, welder's arc	4*
Shovels	
Round point, long handle	2
Round point, short handle	1
Square point, short handle	1
Snips	
Tinner's combination, 3″ and 3½″	1 each*
Spark plug cleaner and tester	1
Squares	
Combination, 9″	6
Carpenter's steel, 16″ x 24″, 1/16″ markings	3*
Tape, steel, 50′ and 100′	1 each
Timing light, Neon	1
Tongs	
Bolt, blacksmith's, ⅜″–½″–¾″ by 20″ to 24″	1 each*
Straight-lipped, 20″ to 24″	2*
Torch	
Blow, gasoline, capacity one quart	1*
Prest-o-lite (5-in-1)	1
Trowel	
Pointed, 6″, 10″	1 each*
Square, 6″, 10″	1 each
Vise	
Drill press, 6″ opening	1
Machinist's, 4″ jaw	2*
Machinist's, 5″ or 6″ jaw, heavy duty	1*
Pipe, ⅛″ to 3½″	1
Woodworking, rapid acting, 7″ jaw	6*
Wheelbarrow, rubber tire	1
Wrenches	
Adjustable, open end, 6″, 8″, 10″, 12″	2 each
Allen, set	1
Box type, 5/16″ to 1″ by 16ths	1 set
Monkey, 18″ and 21″	1 each
Pipe, 8″–14″–18″–24″	1 each
Socket, half inch, square drive, ⅜″ to 1⅛″ by 32nds, 12 point	1 set
Spark plug, long, thin, and deep, 12 point, ½″ to 1⅛″ by 16ths	1 set

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Portable Electric Handsaw		1
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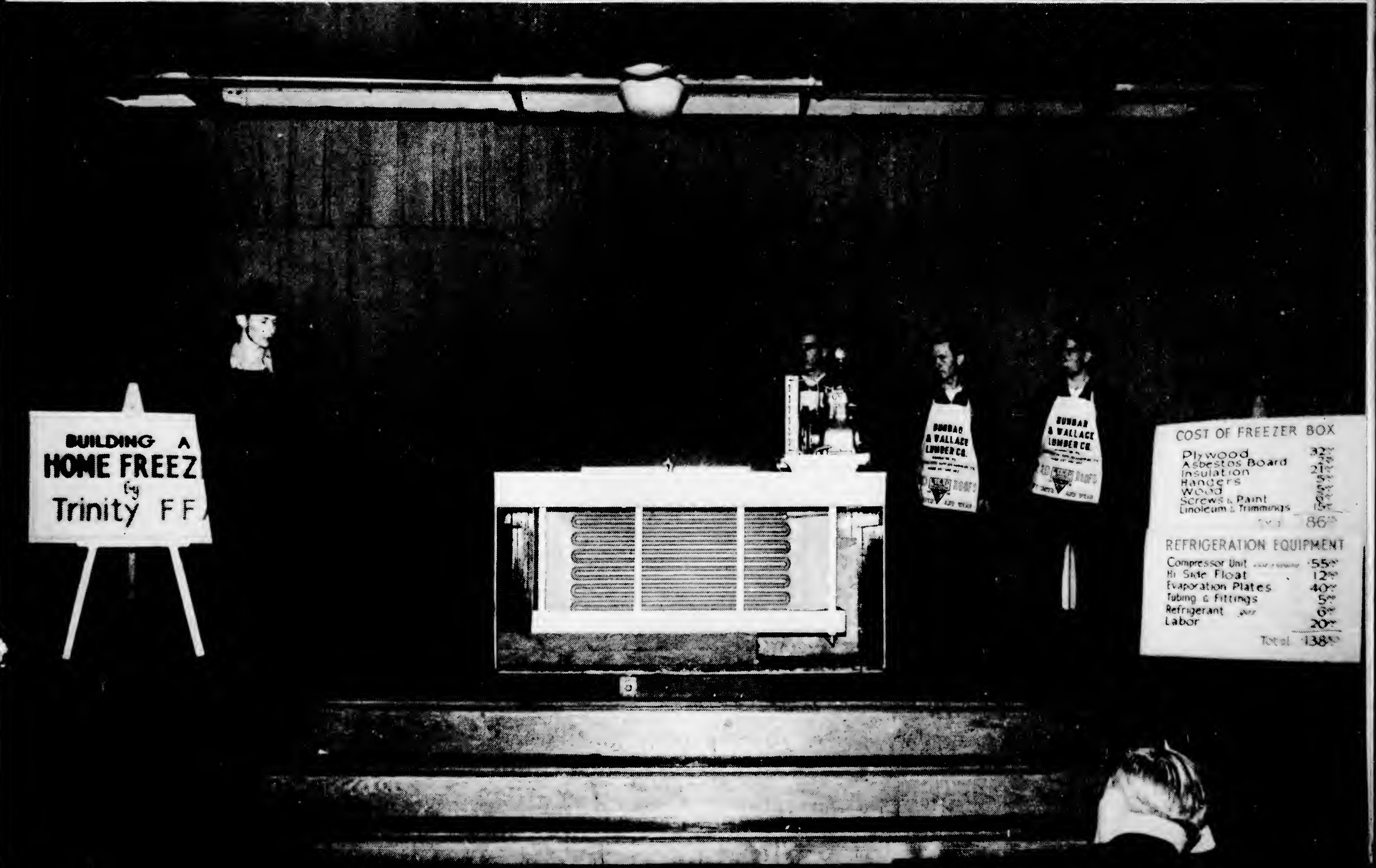
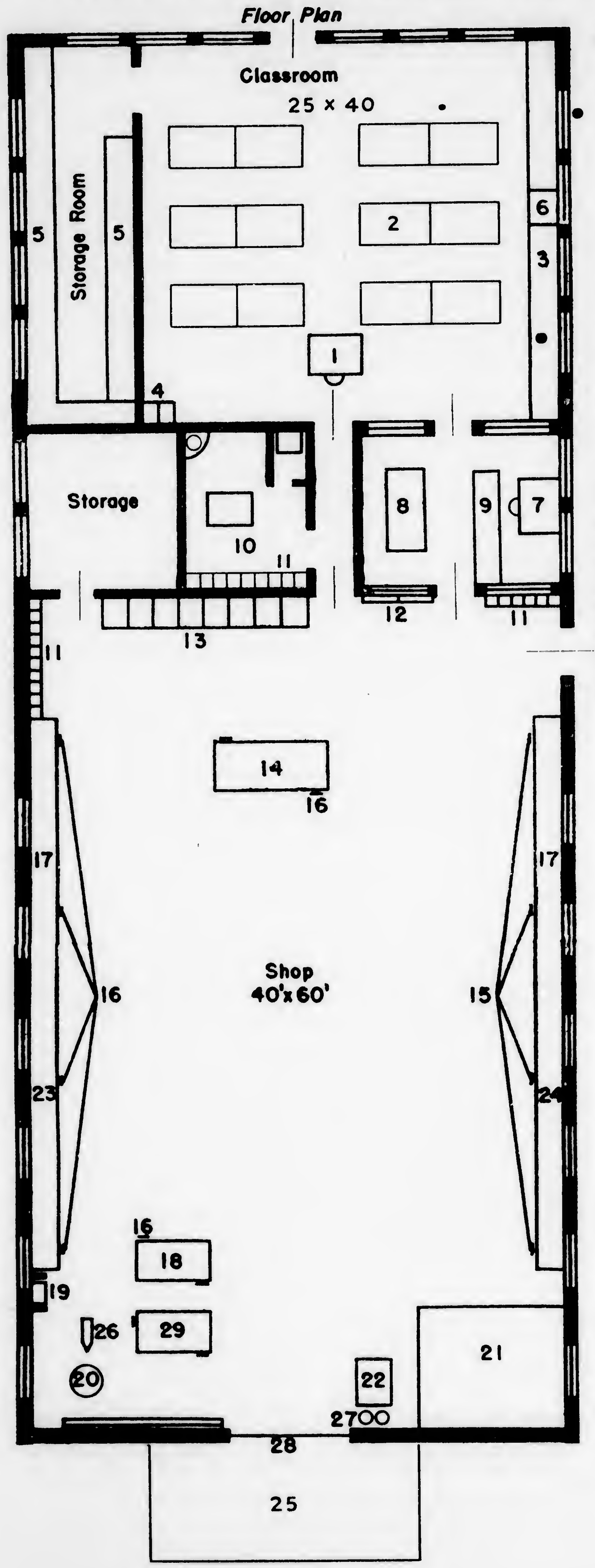


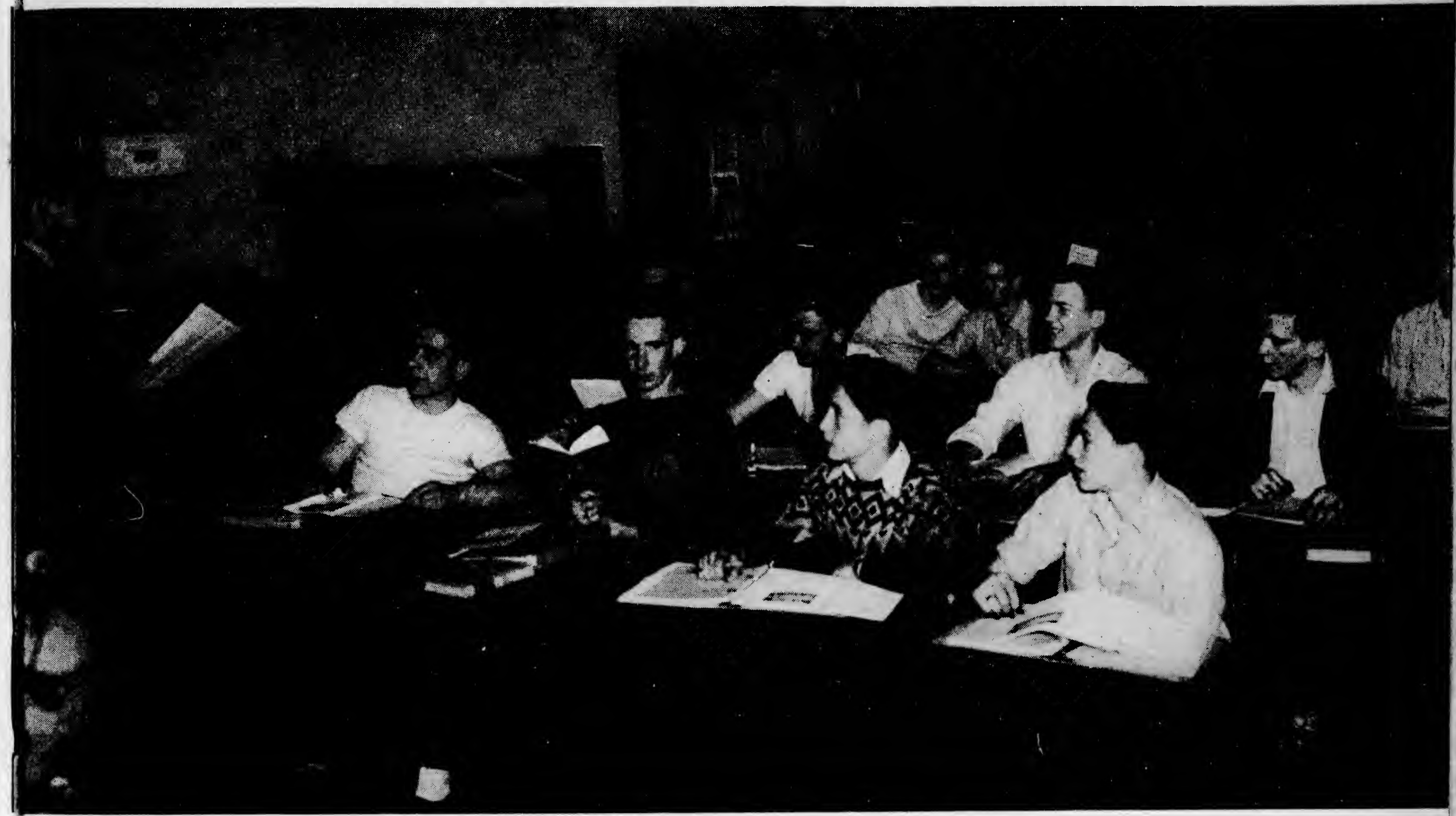
Trinity High School, Washington County. Members of the Trinity Chapter demonstrate the advantages of a home-built freezer for storing food. →

A SUGGESTED LAY-OUT FOR A ONE-TEACHER AGRICULTURAL UNIT



Legend
1. Instructor's Desk
2. Classroom Tables
3. Laboratory Table
4. Bulletin File
5. Shelves
6. Sink
7. Instructor's Office Desk
8. Small Conference Desk
9. Counter
10. Wash Room
11. Lockers
12. Master Tool Rack
13. Vertical Lumber Storage
14. Movable General Purpose Table
15. Woodworking Vises
16. Machinist Vises
17. Work Benches
18. Soldering Bench
19. Power Grinder
20. Forge
21. Arc Welding Booth
22. Welding Table
23. Drill Press
24. Bench Grinder
25. Concrete Paved Area
26. Blacksmith's Vise
27. Acetylene and Oxygen Tanks
28. Overhead Door
29. Forge Bench

Note: Unit Tool Cabinets at Benches. Classroom size includes Storage Room.

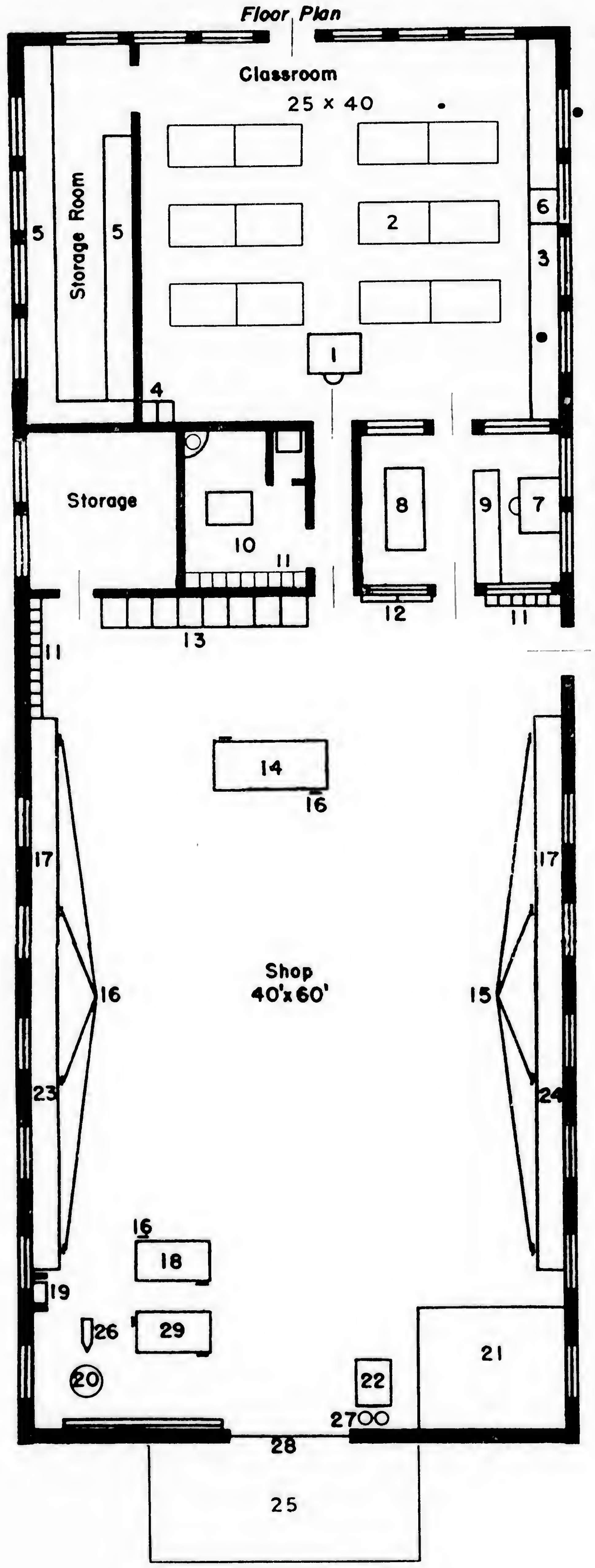


Members of Hollidaysburg High School Agriculture Class, Blair County, Planning Their Supervised Farming Programs.

A VOCATIONAL AGRICULTURE BUILDING

Some schools find it feasible to house the vocational agriculture department in a separate building near the high school. On the opposite page is a plan for such a unit.

A SUGGESTED LAY-OUT FOR A ONE-TEACHER AGRICULTURAL UNIT



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Springfield Township, Pleasant Valley, Bucks County. Exhibits of Corn, Fruit, Potatoes, and Flowers, a total of over 200 farm products and 100 flowers. At least 2,000 people viewed the exhibits of 672 exhibitors—a fine indication of community appreciation and fine cooperation.

RECOMMENDATIONS FOR A BUILDING TO BE USED IN TEACHING VOCATIONAL AGRICULTURE IN HIGH SCHOOLS

It is recommended that:

1. The classroom and farm shop be in one unit, but separate rooms.
2. The farm shop work be taught in a shop used for no other kind of classes.
3. The floor space in the farm shop be left as free as possible from work benches.
4. The work benches in the shop be of a type that will fit along the walls, having a maximum width of two feet.
5. Work benches do not have shelves.
6. There be sufficient light in the building, natural and artificial, satisfactorily located and adequately protected.
7. The walls between the two kinds of work, classroom and shop, be made as nearly soundproof as is feasible.
8. Storage rooms, offices, and utility space be located between the shop and classrooms.
9. The shop include one overhead door 12′ wide through which large machinery or equipment can pass.
10. All of the shop be visible from the center of the floor.
11. The floor in the shop be made of concrete or of wood building blocks.
12. No space be taken from the shop for a tool room. Items seldom used and those that are costly can be kept in the storage room.
13. Wall space be allowed for tool cabinets; such cabinets to be on a unit basis and placed advantageously for the work to be performed.
14. The building be so planned that it can readily be enlarged.
15. Storage space be provided for coal, lumber, iron, steel, paints, machinery parts, and other commonly used items.
16. The farm shop is not to serve as a bus shed and for bus service.
17. A washroom with toilets and clothes lockers be provided and conveniently located.
18. There be a floor drain in the farm shop.
19. Lumber racks are under a roof high enough to permit vertical storage, and not be part of the storage room.

20. Racks for metal be located in a convenient place and along a wall.
21. Provisions be made for the lifting and moving of heavy items within the shop.
22. When arc and acetylene welding equipment is available they should be portable within the shop.
23. An exhaust fan for ventilation be provided.
24. Electric convenience outlets be sufficient in number and satisfactorily located in the shop and classroom—(shop to have both 110- and 220-volt outlets).
25. Adequate storage rooms be provided for classrooms and shop.
26. The office be so located as to permit full vision of activities within the shop and classrooms.
27. An adequate heating system be provided.
28. Tables in the classrooms be placed in such a manner as to permit conference procedure.
29. In all classrooms sufficient space for books, bulletins, and other reference material be provided.
30. Safety features be provided throughout.

Tunkhannock High School, Wyoming County. → Members of the vocational agriculture class candling and traying eggs for incubation in their F.F.A. chapter-owned incubator.

LABORATORY EQUIPMENT AND MATERIALS

A certain amount of equipment is essential to the teaching of the many phases of science involved in agriculture. Agriculture supplies are also necessary. The type of equipment for the laboratory depends upon the crops grown and animals raised in the community.

The equipment necessary for operating a department of vocational agriculture will vary in cost, depending largely upon the size of the department, the way the material is purchased, and the types and quality of materials. The general use of electricity on Pennsylvania farms has made an increased demand for power equipment in the farm shop.

1. Laboratory Equipment and Materials for Poultry

   Required List for Poultry

   1 Debeaker
   1 Sticking knife
   1 Egg candler
   1 Egg scale
   3 Caponizing sets
   1 Dissecting set
   4 Exhibition coops
   1 Pinfeather knife
   2 Boning knives
   1 Forged steel poultry shears

2. Laboratory Equipment and Materials for Crops and Soils

   Required List for Crops and Soils

   1 Soil sampling tube
   1 Soil auger
   3 Tripod lenses
   1 Set sieves for screening soils
   1 Soil testing set for lime
   1 Soil and tissue testing set for N,P,K (Purdue set)
   Materials for testing seed germination

   Recommended List for Crops

   1 Moisture tester
   1 Seed treater
   1 Hand sight level

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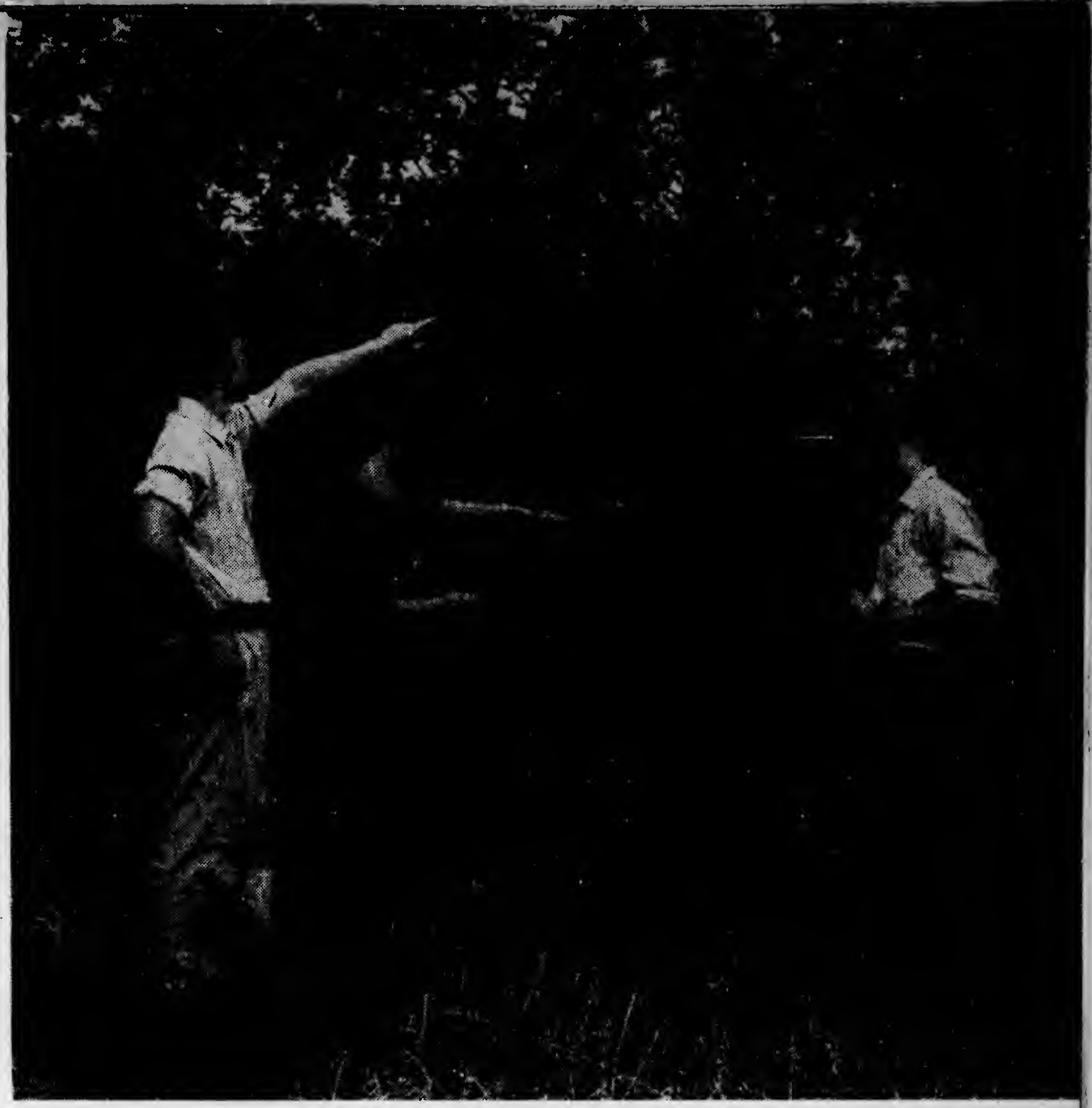
   Materials for testing seed germination

   Recommended List for Crops

   1 Moisture tester
   1 Seed treater
   1 Hand sight level

Schwenksville, Montgomery County. The start of a fine laying project.

← A student of Slatington High School, Lehigh County, and his fine broiler project.



Pleasantville Valley Township, Bucks County. F.F.A. boys thinning apples.

3. Laboratory Equipment and Materials for Vegetable Gardening

   Required List for Vegetable Gardening

   1 Hand duster (crank style)
   1 Hand sprayer (compression)

   Recommended List for Vegetable Gardening

   1 High wheel cultivator, with attachments
   1 Seeder with fertilizer attachments
   3 Rakes
   1 Nursery spade
   2 Hoes
   1 Hedge shears

4. Laboratory Equipment and Materials for Fruit

   Required List for Fruit Growing

   3 Pruning saws
   3 Pruning shears (hand)
   1 Pruning shears (26"–28")
   1 Pole pruner (10'–15')
   3 Grafting knives
   1 Grafting chisel
   1 Budding knife
   1 Wax melter
   Grafting and budding materials

   Recommended List for Fruit Growing

   1 Lime sulphur hydrometer

5. Laboratory Equipment and Materials for Animal Husbandry

   Required List for Animal Husbandry

   1 Hoof trimmer
   1 Hoof rasp
   1 Pig ringer and rings
   1 Hog bit and capsule gun for worming
   1 Wool card
   1 Docking pincers
   1 Sheep shears
   2 Weighing tapes
   1 Smoker for bees
   1 Hive scraper for bees
   1 Bee veil

   Recommended List for Animal Husbandry

   1 Dehorner

6. Laboratory Equipment and Materials for Dairy Husbandry

   Required List for Dairy Husbandry

   1 Babcock tester—electric, 24 bottle
   48 Milk test bottles (8%)
   12 Pipettes, 17.6 ml.
   4 Acid burettes, 17.5 ml.
   4 Dividers
   1 gross Sample bottles
   12 Sample dippers
   2 Dairy thermometers
   6 Milk brushes (test bottles)
   2 gallons Sulphuric acid, Sp. Gr. 1.82–1.83, C.P.
   1 Crock for waste (5 gallon)
   1 Dairy scales
   1 Strip cup
   1 Electric clippers
   1 qt. Glymol

7. Recommended Visual Aids

   1 Projector—film strip and 2" x 2" slides—300-watt lamp
   1 Screen, 4' x 5'

   Library of film strips and 2" x 2" slides
   Pictures of breeds and types of animals and poultry
   Specimens of:
      Insects
      Diseases
      Small grains
      Grasses
      Legumes
      Weeds
      Soils
      Fertilizers
      Feeds
      Insecticides
      Fungicides

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   Recommended List for Vegetable Gardening
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   - 1 Seeder with fertilizer attachments
   - 3 Rakes
   - 1 Nursery spade
   - 2 Hoes
   - 1 Hedge shears

4. Laboratory Equipment and Materials for Fruit

   Required List for Fruit Growing
   - 3 Pruning saws
   - 3 Pruning shears (hand)
   - 1 Pruning shears (26″–28″)
   - 1 Pole pruner (10′–15′)
   - 3 Grafting knives
   - 1 Grafting chisel
   - 1 Budding knife
   - 1 Wax melter
   - Grafting and budding materials

   Recommended List for Fruit Growing
   - 1 Lime sulphur hydrometer

5. Laboratory Equipment and Materials for Animal Husbandry

   Required List for Animal Husbandry
   - 1 Hoof trimmer
   - 1 Hoof rasp
   - 1 Pig ringer and rings
   - 1 Hog bit and capsule gun for worming
   - 1 Wool card
   - 1 Docking pincers
   - 1 Sheep shears
   - 2 Weighing tapes
   - 1 Smoker for bees
   - 1 Hive scraper for bees
   - 1 Bee veil

   Recommended List for Animal Husbandry
   - 1 Dehorner

6. Laboratory Equipment and Materials for Dairy Husbandry

   Required List for Dairy Husbandry
   - 1 Babcock tester—electric, 24 bottle
   - 48 Milk test bottles (8%)
   - 12 Pipettes, 17.6 ml.
   - 4 Acid burettes, 17.5 ml.

Pleasantville Valley Township, Bucks County. F.F.A. boys thinning apples.

   - 4 Dividers
   - 1 gross Sample bottles
   - 12 Sample dippers
   - 2 Dairy thermometers
   - 6 Milk brushes (test bottles)
   - 2 gallons Sulphuric acid, Sp. Gr. 1.82–1.83, C.P.
   - 1 Crock for waste (5 gallon)
   - 1 Dairy scales
   - 1 Strip cup
   - 1 Electric clippers
   - 1 qt. Glymol

7. Recommended Visual Aids
   - 1 Projector—film strip and 2″ x 2″ slides—300-watt lamp
   - 1 Screen, 4′ x 5′

   Library of film strips and 2″ x 2″ slides
   Pictures of breeds and types of animals and poultry
   Specimens of:
   - Insects
   - Diseases
   - Small grains
   - Grasses
   - Legumes
   - Weeds
   - Soils
   - Fertilizers
   - Feeds
   - Insecticides
   - Fungicides

Quakertown High School Farm, Bucks County. The Tohica F.F.A. Chapter with the guidance of their agricultural teacher and a school board committee successfully plan and manage their own farm. They have a purebred Guernsey herd, poultry, and one of the best Chester White herds in the East. Breeder swine have been sold in eight states.

SCHOOL FARMS

In recent years, the mechanizing of agriculture has increased the need for a school farm for giving boys an opportunity to learn to operate modern farm machines. If these boys are to be trained in modern farming and the type of equipment they will use when they enter the occupation of farming, they can profit greatly by this type of training and work experience. The school farm, however, should be used only as a laboratory to give training in agricultural skills and to provide work experience for boys coming from small farms (where the cost of mechanization has proved prohibitive) and for boys living in town. While it is expected that products grown on the school farm can and should be used in the school cafeteria, it needs to be emphasized that the school farm never should be operated for the purpose of providing an income to the school district for maintaining the department of agriculture or other parts of the school system. The school farm, properly used as a laboratory, will do much to advance the entire program of agricultural education.

IV

Relation of Agriculture Department to the Community

ACTIVITIES

THE DEPARTMENT OF AGRICULTURE is the center around which develop a number of enriching community activities. The teacher of agriculture is committed to a wholesome participation in the community life in the service area of his department.

This participation may take place in cooperation with other farm organizations. Scores of activities might be mentioned, but probably the outstanding one is the community fair. To the community fair clings the atmosphere of the fair of former days, with its displays of canned goods, vegetables, fruits, and livestock, but without the demoralizing influence of the midway. Community fairs are usually a homecoming event and are permeated by the old-fashioned "harvest festival" spirit. Home project exhibits of the boys and girls, demonstrations, judging contests, tractor driving contests, and other activities developed by good leadership in the school, play a major role in interesting the thousands of visitors to the fairs.

The father and son banquet is another very appropriate and popular activity that is conducted by the agriculture department. The major part of the program is staged by the vocational boys, but there is an opportunity for cooperation on the part of representatives of other agricultural agencies. This is an appropriate occasion for these representatives to present awards that have been provided for boys of outstanding accomplishment in cooperative supervised farming activities: dairying, poultry raising, conservation practices, etc. The chief purpose, however, in conducting the father and son meeting is to acquaint the dads with the agricultural program and thereby secure their cooperation in preparing their boys for successful establishment as farmers and community leaders.

EFFECTIVENESS

Vocational Education in Agriculture started in Pennsylvania in 1913 with an enrollment of approximately 75 boys in five schools. Growth has been gradual until today there are approximately 300 schools with 10,000 boys enrolled. During this span of 35 years thousands of boys have received one or more years of this type of training. Studies show that more than 60 per cent of these former students are engaged in farming or related agricultural occupations.

Two brothers, Keystone Farmers, with their partnership combine and tractor.

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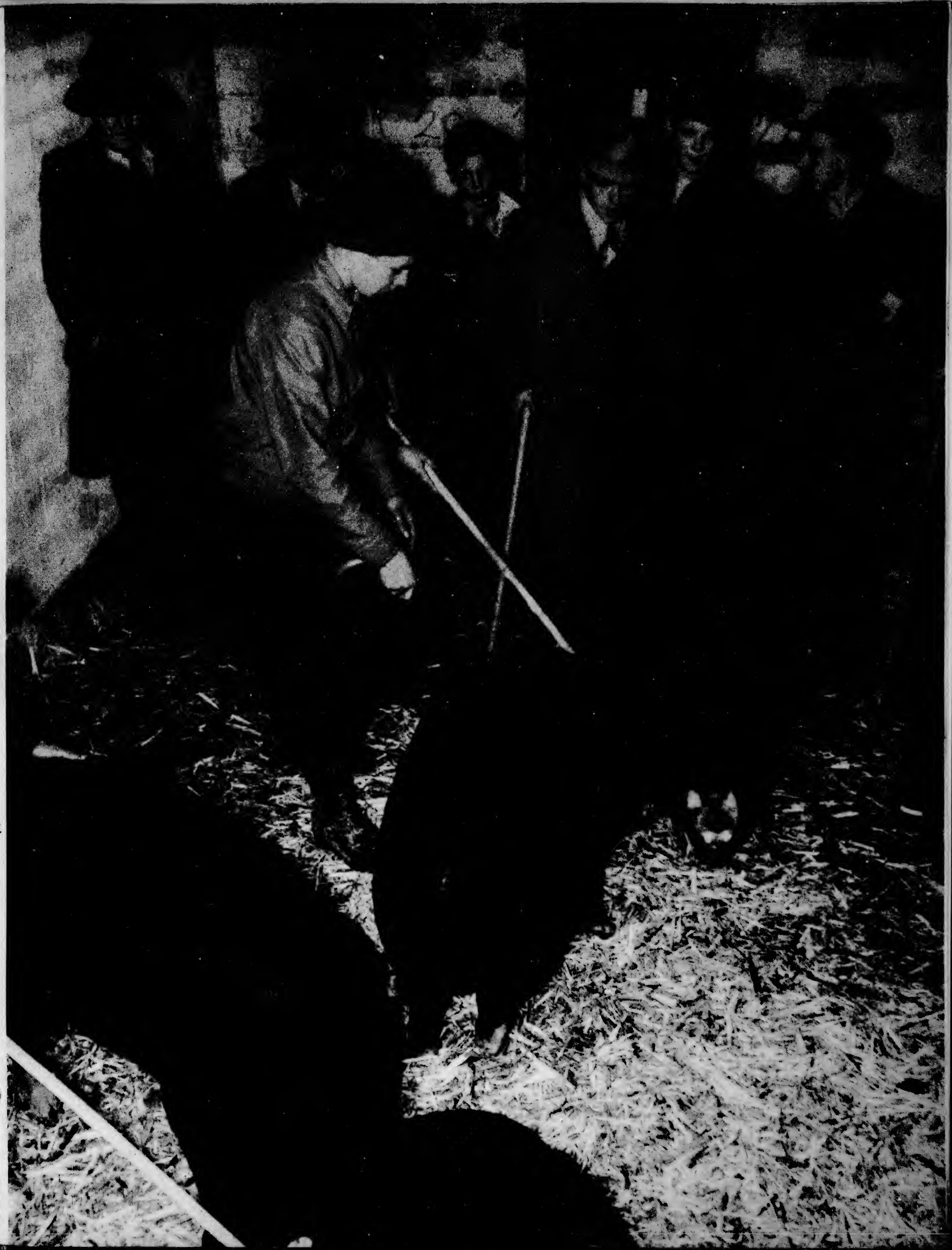
Pennsylvania Future Farmers competing for honors in a state-wide egg grading contest. These boys know what consumers like when buying quality eggs.

EVALUATION

Teachers and school officials interested in evaluating the service of the vocational agriculture program to the community can secure a number of organized aids and suggestions.

One section of the "Evaluative Criteria" developed in connection with the Cooperative Study of Secondary Schools applies to instruction in agriculture. That section is being revised to conform to the "Evaluative Criteria for Programs of Vocational Agriculture" developed by the Agriculture Section of the American Vocational Association. The latter instrument, which presents a very complete list of the objectives of instruction in vocational agriculture as well as lists of procedures and conditions which contribute to the fulfillment of these objectives, is available from the office of the American Vocational Association, Denrike Building, Washington 5, D. C.

Judging at the Indiana-Cambria County Bred-Gilt Sale. A student of Marion Center F.F.A. is showing his reserve champion animal. →



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End of Title